The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLII. CHICAGO, ILLINOIS, JANUARY 30, 1904. No. 5.

Original Articles.

PERITONEAL SALINE INFUSIONS IN ABDOMINAL OPERATIONS.

A COMBINED CLINICAL AND LABORATORY STUDY OF THEIR EFFECTS.*

JOHN G. CLARK, M.D.

Professor of Gynecology in the University of Pennsylvania,

AND

CHARLES C. NORRIS, M.D.

Instructor in Gynecology in the University of Pennsylvania.

PHILADELPHIA.

(From the William Pepper Laboratory of Clinical Medicine, Phoebe A. Hearst Foundation.)

At the St. Paul session of the American Medical Association we presented a paper[1] on "The Practical Application in Abdominal Surgery of Scientific Investigations Concerning the Function, Anatomy and Pathology of the Peritoneum," in which the employment of infusions of normal saline solution into the peritoneal cavity after all abdominal operations was advocated. The theory as to its value was based on the proved physiologic fact that there are well-defined currents which waft minute bodies from the lower or more dependent part of the peritoneal cavity toward the diaphragm, through which they gain entrance into the retroperitoneal lymph channels, and thence into the general blood channels. Our experimental work, at that time, had been confined solely to tracing the course of minute innocuous granules, such as India ink and carmine, from the peritoneal cavity into their more remote places of lodgment. This series of experiments unquestionably demonstrated that any foreign material in a finely divided granular state will be transported quickly from the peritoneal cavity; and in some instances, within eight hours, these minute bodies were found deposited in the marrow of the long bones, such as the femur and humerus. They were likewise found in the kidneys, liver, lungs, intestines, and even in the gall bladder in considerable numbers. From these observations we reached the conclusion that not only the kidneys, but likewise the liver, intestines, and even the lungs participated in the elimination of these granules. The employment of saline infusions in the peritoneal cavity is not a novel suggestion, but has been the subject of many active discussions, for it has been earnestly advocated by some surgeons and strongly deprecated by others. From the clinical standpoint we have very closely studied this question for the last five years, and have every reason to extend rather than to limit its employment.

In presenting the results of our experiments at the St. Paul session we recognized discrepancies in our own work, in that we had not yet had sufficient time to carry out, with lethal micro-organisms, experiments analogous to those which we had conducted with innocuous foreign particles. It is the object of this paper to detail the experimental work conducted along the latter line.

Certain general principles which have been established by the combined work of many observers are worthy of restatement before we take up the review of our laboratory and clinical observations. When infectious micro-organisms are introduced into the peritoneal cavity, the lymph and leucocytes which are normally present as a circulating peritoneal medium at once assume a combative rôle. An immediate increase of leucocytes is noted (temporary leucocytosis); but after a few minutes these are transported into the general lymph paths and for a short space of time there is a marked deficiency of leucocytes (leucopenia). Then an exaggerated peritoneal leucocytosis is noted, the intensity of which is in direct proportion to the degree of the irritation. Thus a very irritating fluid, such as turpentine or glycerin, may give rise to so profuse an exudation of serum and escape of leucocytes from the blood vessels into the peritoneal cavity as to actually cause the animal's death through excessive depletion.

In experimental infections of the peritoneum, the index of lethality may be judged by the varying degrees of leucocytosis. Thus an excessive degree of leucocytosis followed by a rapid decrease with increasing gravity of symptoms indicates that the toxicity of the micro-organisms has overcome all phagocytosis or germicidal action of the blood serum, and that there will be a fatal result. Not only on the quick delivery into the peritoneal cavity of serum and leucocytes, but also on their rapid exit depends the safety of the patient in the first stages of peritoneal infection. There are no blood vessels within the body capable of such quick action in this physiologic function as those circulating in the omentum, which hangs as a movable, dependent apron over the intestines. Ramifying in all directions throughout this apron are widespread capillary anastomoses of extremely thin-walled vessels, which provide the best anatomic conditions for the rapid escape of leucocytes and serum into the peritoneal cavity.

If there is this excessive peritoneal leucocytosis after an infection, or from traumatic or chemical irritation within the abdominal cavity, the blood examination after an abdominal operation should serve as an indicator of this phenomenon. Already clinical observations have proved the constancy of the increased leucocytosis after even a minor abdominal operation. A very careful and systematic series of observations has been made

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. THE JOURNAL A. M. A., Aug. 10, 1901, p. 360.

by C. Y. White in the gynecologic wards of the University Hospital. White has stated his conclusions as follows:[2]

Postoperative Leucocytosis.—The cause of increase of leucocytes after operation must be due to a number of factors, and first among these is the effect of ether. Lerber, Schultz and Chadbourne found this increase to commence within a few minutes after the anesthetic was given, to increase for several hours, and then to decrease until it reached normal limits, usually in two days. I have found this in four cases of pure etherization, and from this I conclude, as did Chadbourne, that the increase does not seem to depend on the duration of the anesthesia, but on the way the organism reacts to the drug. Besides ether, such factors as the incision into the abdominal wall, hemorrhage, the operative traumatism to the delicate structures within the peritoneum and the breaking up of adhesions, certainly play a part in the causation of this leucocytosis. It is impossible to exclude any one of these causes; taken collectively they produce the postoperative leucocytosis. This was constantly seen in my cases. The highest count was reckoned within five hours after the operation, excepting in severe cases where glass drains were used (in these cases it was about thirty hours) and tended to fall to within normal limits in five days, excepting again in the cases where the glass drain was employed. In these cases it occurred several days later. A. E. Taylor has kindly given me the counts of twenty-two unpublished cases of celiotomies, in which he found similar results. The postoperative leucocytosis in Taylor's series averaged 19,500 cells; in my series 20,975.

From this study of White's summary, it will be noted that after every abdominal operation there is a marked rise in the leucocyte count, the cause of which is attributed by White to many different factors. One point which is especially noteworthy is that in cases in which the glass drain was used the leucocytosis persisted a greater number of days than in those cases in which the abdomen was closed without drainage. We believe that this persistent increased leucocytosis is due to the longer continued peritoneal irritation in the vicinity of the drainage tracts.

With White's study as a basis for comparison we have made a few observations relative to postoperative leucocytosis in cases in which the saline infusions have been used. As yet, however, the number of cases have not been sufficiently extensive to warrant us in drawing well-defined conclusions, and we can only state that when normal salt solution has been used, leucocytosis has been somewhat greater during the first twenty-four to thirty-six hours after the operation. As yet we attach no especial importance to these observations farther than to recall the well-demonstrated fact that even the light flushing of the peritoneal cavity with hot salt solution in animals will invariably produce a general leucocytosis. According to our observations, an early leucocytosis in these cases is invariable, and the greater the leucocytosis, the more quickly will the peritoneal irritation or infection be subdued, unless it is so lethal as to overcome every combative force of the human economy, as is seen in some very lethal cases of streptococcic infection. As a general working law, we would say that the greater the leucocytosis within twenty-four to thirty-six hours after the operation, the more likely is the infection to be overcome.

In beginning our study of the action of the peritoneum with and without the presence of the saline infusions, our first endeavor was to procure unquestionably virulent organisms, for, as is well known, the degree of toxicity of all micro-organisms has a wide range under varying conditions; thus the most active streptococcus by successive cultivations may be rendered almost innocuous. While the streptococcus is usually considered the most dangerous of all micro-organisms with which we meet in surgery, we have employed a special genus of *Staphylococcus aureus,* which is even more virulent in its action. Accidentally, in the conduct of a special research by Dr. A. C. Abbott in the Laboratory of Hygiene, this organism was recovered from an acute abscess in a rabbit; its virulence was so intense as to make it difficult to find the minimum lethal dose. One-tenth of a cubic centimeter of cloudy bouillon culture injected into the ear vein of a rabbit caused in a very short time exaggerated toxic symptoms and death. One cubic centimeter introduced into the peritoneal cavity of a rabbit likewise produced the most excessive toxic symptoms, followed quickly by death. By a graduated reduction of the dose we found that one-half a cubic centimeter would invariably cause death, while with smaller amounts some of the animals would survive. In our experiments, two animals, approximately of the same size and general health, were selected. They were anesthetized, the abdomen was prepared for an abdominal operation, and a canula was introduced into the peritoneal cavity without injury to the intestines. In one of the animals one-half a cubic centimeter of bouillon culture was introduced and the wound closed by a sealed dressing. In the other animal, after the same amount of bouillon culture had been introduced, 100 cubic centimeters of normal salt solution at 110° C. were injected through the same canula. The following report of the experiments, as conducted by Dr. Norris, gives an epitomized account of the result and according to our view demonstrates without doubt that the saline infusions acted in a most beneficial way, for by this means 44 per cent. of the infected animals in which it was used were saved, whereas every control animal died.

BACTERIOLOGIC REPORT.

In these experiments there were 25 test animals, and a control animal was used for the first eleven injections. The next 13 animals were injected in rapid succession. No control animal was used; but with the twenty-fifth animal, fearing that the stock culture might have decreased somewhat in virulence, another control animal was injected with the same lethal result. Of the 12 control animals employed, all died, the average length of life being a little over thirteen hours (13 1/13). Of the 25 test animals (those in which salt solution was used together with the micro-organisms) 11 are living and well (44 per cent.). The average length of life of the test animals that died was 83 hours, as against 13 1/13 hours in the control animals.

In most of the cases the injected micro-organism was recovered from the majority of the organs. At the beginning of these experiments 1 c.c. of the forty-eight hour cloudy culture was used. This was found to be too lethal in its action, and it was reduced to .75 c.c. This dose was also excessive, and for the last eighteen animals, .5 c.c. was injected, the dose of the control animal being the same as that of the test animal.

COMPOSITE TABLES SHOWING THE NUMBER OF TIMES THE INJECTED MICRO-ORGANISM WAS RECOVERED FROM THE DIFFERENT ORGANS.

TEST ANIMALS—11 RABBITS.	Times.	CONTROL ANIMALS—12 RABBITS.	Times.
Peritoneum	10	Peritoneum	12
Spleen	10	Spleen	11
Liver	9	Liver	12
Kidney	8	Kidney	6
Gall bladder	2	Gall bladder	2
Lungs	8	Lungs	4
Heart's blood	8	Heart's blood	7

2. University Medical Magazine, June, 1900.

One case of obstruction and two of empyema were omitted from this table, as in the two latter animals infection had probably occurred previous to operation; in the obstruction case, cultures were sterile. In every case the autopsy was made as soon as possible after the death of the animal, usually within two to five hours.

A stock culture of the micro-organism (*Staphylococcus pyogenes aureus*, described above) was made and used throughout; this culture was plated from time to time, to insure freedom from mixed infection. The method of preparing a culture was as follows: Two test-tubes containing sterile bouillon were inoculated from the stock culture. These were placed in the incubator for forty-eight hours, by which time the culture would be decidedly cloudy. In all cases in which a pair of rabbits (one test and one control) was used, an effort was made to procure animals as near the same weight as possible. Only healthy looking rabbits were selected. Ether was administered at each injection, so as to simulate, as much as possible, an actual operation and also to prevent any unnecessary suffering of the animal.

Method of Operation.—The lower part of the abdomen was shaved and cleaned with green soap, alcohol, ether and bichlorid of mercury solution. The syringe and needle were boiled and cooled in sterile water. The amount of culture to be injected was measured in a sterile pipette, diluted with 4 c.c. of water, and injected into the peritoneal cavity, care being taken not to wound the intestines, omentum or other organs. In cases in which the salt solution was used, 100 c.c. were introduced through the same canula. A collodion dressing was applied over the seat of the puncture. The animals were carefully marked and placed in large boxes, with plenty of fresh food and water and the greatest care was observed to make the animals as comfortable as possible after the operation.

SUMMARY OF POSTMORTEM FINDINGS.

The following diagnoses were made at autopsy on the test animals:

R. 2. S. Early fibropurulent peritonitis, mixed infection.
R. 3. S. Fibrinous peritonitis, mixed infection.
R. 5. S. Obstruction of large intestine. Localized abscess in abdominal wall, walled off from peritoneum.
R. 6. Toxemia.
R. 7. General infection. Pneumonia, abscess in both kidneys, general purulent peritonitis.
R. 9. Pneumonia (double); possible fibrinous peritonitis.
R. 12. General fibropurulent peritonitis.
R. 15. Toxemia.
R. 16. General fibropurulent peritonitis, mixed infection.
R. 18. General infection?
R. 19. General purulent peritonitis.
R. 20. Right-sided empyema.
R. 21. Similar to 20.
R. 22. Fibropurulent peritonitis.

Microscopic preparations were made from the different organs. Cloudy swelling was almost invariably found in the liver, spleen and kidney; in general, however, this was not marked. The lungs were usually congested, and it was not uncommon to find red blood corpuscles in the alveolar spaces. In some instances, micro-organisms were found in the stained tissue.

From this review of our experimental work the evidence is conclusive that a large percentage of the animals in which the normal salt solution was injected immediately after the bouillon culture of *Staphylococcus aureus* was saved by this means.

It has been asserted that the distribution of infectious matter within the peritoneal cavity is not only valueless but very dangerous. From a clinical standpoint we have amply proved that the latter statement is ungrounded; for in a series of 254 laparotomies, in which peritoneal infusions were very largely employed, only seven deaths occurred.[3] In one, a case of general miliary tuberculosis of the peritoneum, death occurred two months after the operation from a general involvement of the lungs and other organs of the body. The second was a case of cancer of the cervix, in which panhysterectomy was performed; no salt solution was used as the pelvic diaphragm was not completely closed, and therefore the solution would not be retained. In this case, the patient died within twenty-four hours after the operation from pulmonary emboli. The third was a general purulent peritonitis; the patient was *in extremis* at the time of the operation, which was hastily performed in the vague hope that she might be saved. Death occurred, however, before the patient reached the hospital ward. In the fourth, a case of general cancer of the peritoneum, only an exploratory laparotomy was performed. No infusion was employed because the peritoneum was already overtaxed and unable to free itself of ascetic fluid. This patient died one week later from the general progress of the disease.

As will be seen from the brief statement of these four cases, the use of the salt solution had nothing whatever to do with the death, for in two of the cases it was not used, and in the other two in which it was employed no ulterior effect could be ascribed to it; for the patient suffering from general tuberculosis survived for two months after the exploratory incision, and the second expired on the operating table.

The three remaining cases were as follows: in one, a patient suffering with a large cystic myoma, death occurred within twenty-four hours after the operation from a virulent fulminating streptococcic infection. This case showed the most intense toxic symptoms and death came with the rapidity which is so characteristic of this fatal poison. In this case, certainly the salt solution in no way retarded the progress of the symptoms. This case also proves the point which we have insisted on, namely, that given a virulent streptococcic infection, in some instances practically nothing which we know of can save the patient. In the next case, the patient was operated on for chronic appendicitis, with extensive adhesions, and right-sided salpingitis; death occurred on the fourth day from intestinal ob-

3. These were as follows:
Myomectomy, 4.
Hysteromyomectomy, leaving ovaries, 26.
Hysteromyomectomy with salpingo-oöphorectomy, 4.
Hysterecto salpingo-oöphorectomy, 7.
Panhysterectomy, 10.
Bilateral salpingo-oöphorectomy for pyosalpinx, 18.
Unilateral salpingo-oöphorectomy, 37.
Suspensio-uteri with operation on adnexa, 25.
Suspensio-uteri with plastic operation on cervix or vagina, or both, 53.
Suspension alone or combined with Webster's operation alone, 26.
Gall-bladder operations alone or combined; if combined, included above as well, 4.
Exploratory laparotomy or laparotomy and drainage, 16.
Relief of adhesions, 2.
Appendectomy alone, 9.
Appendectomy combined with other peritoneal operations, 37.
Hernia alone or combined with other peritoneal operations, 14.
Kidney operations alone or combined with other peritoneal operations, 4.
Laparotomy, etc., including inguinal colostomy, etc., 3.
Total number of laparotomies, 254.
Total number of deaths, 7.
In this list of operations only those performed in the Hospital of the University of Pennsylvania have been drawn on for conclusions; for here our conditions were always uniform and the cases were under our constant observation. Were we to have tabulated the large number of operations performed in the St. Agnes, Bryn Mawr and Presbyterian hospitals the mortality statistics would have been about the same.

struction. The last case was one of hepatoptosis, in which the liver had gravitated below the umbilicus. The patient was greatly jaundiced, and was kept quietly in bed for a month, when the jaundice subsided to a sufficient degree to permit the performance of the operation. The liver was suspended, and packing was introduced between the anterior abdominal wall and the liver for the purpose of producing adhesions. In this case the patient again became progressively jaundiced and died on the fourteenth day after the operation.

From this review of the seven fatal cases, only one could in any way be attributed to the use of the saline infusion, in the sense of distributing the poison to the remoter parts of the peritoneum and the general organs of the body.

From this combined clinical and laboratory study, it is evident that the assertion that the use of peritoneal infusions is not beneficial but actually dangerous, has been amply refuted. In the laboratory experiments we saved 44 per cent. of the animals in which the same amount of virulent culture was introduced in the control and test animals. In the first all of the animals, without exception, died; in the second, 4 per cent. were saved and the resistance to the poison in the fatal cases in which the salt infusion was used is shown by the fact that the average life was 69 hours longer than in the control animals.

CONCLUSIONS.

From this study we would draw the following conclusions:

1. The use of salt solution does not increase, but unquestionably minimizes the dangers of pyogenic infection.

2. In addition to the reduction of mortality, the convalescence of the patient is rendered infinitely more comfortable and satisfactory through the reduction of thirst, the increase in the urinary excretion, and the minimizing of vesical irritation.[4]

DISCUSSION.

DR. J. WESLEY BOVÉE, Washington, D. C.—About five or six years ago I took the same stand that Dr. Clark now takes. There are several reasons for this procedure: one being the lessened mortality where there is sepsis; another being a lessened liability to the formation of adhesions in the pelvis; and another the stimulation which we get directly of the center of circulation along the large blood vessels, thus materially lessening the tendency to shock. It throws the blood to the surface of the body instead of allowing the patient to be bled to death into her blood vessels; and there are various other reasons. I would, however, suggest a temperature for this salt infusion. In nearly every abdominal section during the last four or five years I have left salt solution in the abdominal cavity, but the temperature of the fluid must not be over 115 F. In a few cases where I had the temperature as high as 120 F. there have been some symptoms of intestinal adhesions which I have attributed to too much irritation of the peritoneum. In one fatal case I found numerous agglutinations of intestinal loops which I firmly believe were due to the irritation of the hot salt solution. The temperature should range from 108 to 115 F.

DR. H. J. STACEY, Leavenworth, Kan.—I want to call attention to the usefulness of using normal salt solution per rectum. I am in the habit of injecting a quart twice a day to increase kidney action and also to prevent thirst. I do not see any necessity or indication for using water above 105 F. A body temperature as high as that is a serious matter, and I believe that better results come from a solution of that temperature than from one having a higher temperature.

DR. F. F. LAWRENCE, Columbus, Ohio—I have noticed a number of times, on filling the abdomen with sterile water or salt solution having a temperature above 106 F., a sudden increase of the symptoms of shock. The theory on which salt solution is used is certainly a rational one. The lymphatics are the scavengers of the body. If the peritoneal cavity is filled with salt solution or any other fluid it not only dilutes the infection, but the enormous quantity of water carried through the lymph channels washes out and dilutes the entire lymph stream.

DR. C. L. BONIFIELD, Cincinnati—One point, it seems to me, is not the same in a physiologic experiment as in actual practice. In the rabbits, the infected fluid was thrown into the peritoneal cavity free, so that it would be carried throughout the entire abdominal cavity. In practice this is not exactly the condition with which we have to deal. In an appendicitis, for instance, the appendix usually does not rupture until a wall of adhesions has been thrown around that portion of the peritoneum. In pyosalpinx there is always some inflammatory reaction before the infecting material is thrown out. In these conditions also, leucocytosis is well under way before the operation is performed. The question at issue is whether it is better to dilute the infection and then scatter it throughout the peritoneal cavity, or to keep it out of the general peritoneal cavity and in its original location if possible. In practice this depends largely on the skill and experience of the operator. The method Dr. Clark described may be the best for him and others of his experience and ability, but I am satisfied it is better for the average operator to protect the general peritoneal cavity in every way possible and, when in doubt, to drain. Salt water may be used freely by the rectum, under the skin or even in the veins. Its beneficial action may be as much due to its aiding the kidneys in the elimination of poison as to its diluting the poison and enabling the peritoneum to absorb it more readily.

DR. EDWIN RICKETTS, Cincinnati—Experimentation on the healthy peritoneum is one thing, and handling a peritoneum that for 48 or 72 hours has been the seat of a pathologic lesion is quite another problem. I was brought up to think that the washing out of the abdominal cavity with warm water or salt solution was a thing to overcome shock, but I have changed my opinion somewhat. I had a case of ruptured extra-uterine pregnancy, at 3½ months, in which the amount of blood in the abdominal cavity was simply appalling. The operation had to be done promptly to save the patient's life. We did not put a drop of water into the abdomen, but with the hips of the patient elevated, we kept everything as dry as possible. The recovery of the patient was more satisfactory than in the cases of Lawson Tait, who filled the abdomen with warm water. As the last speaker said, there are cases of appendicitis in which there is a walling off, and he who breaks that wall opens the door to infection. By washing out the cavity we take chances of spreading the very thing we want to confine. I simply speak of what experience has taught me, to keep my wounds as dry as possible, and then depend on strychnin and hot water enemata after a short anesthesia and a rapid operation.

DR. C. O. THIENHAUS, Milwaukee, Wis.—It must be remembered that, when we have to deal with an infection of the peritoneum originating from the appendix or pyosalpinx or another cause, the bacteria are lying imbedded in the tissues and not on top of the peritoneum from whence they can be swept away by the saline solution. The saline solution

4. As stated in previous communications, the salt infusion should not be employed in those cases in which the absorption of the peritoneum is greatly impaired, as in certain conditions accompanied by ascites, in ruptured extra-uterine pregnancy in which the peritoneum is already overtaxed by the removal of hemorrhagic débris, and in cases in which there is a considerable pus-producing focus left in the peritoneal cavity. In explanation of the latter it may be said that in cases of localized abscess in any part of the abdominal cavity, which may be evacuated effectually by the usual surgical drains, it should under no circumstances be broken up and thus throw the danger of infection on the general peritoneal cavity. In all instances, however, where the abscess sac may be extirpated completely, as, for instance, in pyosalpinx, localized appendicitis, suppurating gall bladder, etc., peritoneal infusions should be employed, and surgical drainage by gauze or glass tubes discarded.

can not reach these bacteria within the tissues. When I have to deal with pus somewhere in the peritoneal cavity and this pus focus is localized by adhesions, which are thin and tender, I do not like to wash out with saline solution for fear the wall of adhesions which Nature has thrown out in self-protection against the spread of infection may give way and allow the saline solution to carry infectious material somewhere else. When general peritonitis is present I make use of the saline solution for mechanical cleansing purposes, but in such cases the surgeon is entirely at the mercy of the bacteria and of the toxins present in the individual case, and in cases of streptococcus infection with high virulence of the bacteria the patients die promptly with and without the saline solution.

DR. V. M. SHOWALTER, Point Clear, Ala.—Several patients in whom I used the salt solution recovered. One patient in whom it was not used died.

DR. CARL WAGNER, Chicago—Eight or ten years ago I was in the habit of using the salt solution very frequently to avoid shock and, perhaps, to dilute infectious matter. I have, however, abandoned this procedure entirely, influenced greatly by the teachings of Schlange, who says that every wound should be treated in as dry a manner as possible. I further believe that in the infected peritoneal cavity the absorbing power is lowered immensely, to such an extent, perhaps, that for hours after the operation no absorption of salt solution left in there, or at least very little, takes place. Since I have adopted this plan of leaving everything as dry as possible, so that even the sponges used are as dry as they can be made, as practiced by Fritsch and others, my cases have been far more successful. Among the numerous laparotomies for extensive pus cases, I have had five successful hysterectomies for puerperal fever. In regard to preventing or overcoming shock, I reason that while the peritoneum in a healthy condition is a very good agent for the absorption of salt solution, it is entirely different in the pathologic state. Furthermore, if the salt solution is not absorbed, its volume has undoubtedly some unfavorable bearing on the intra-abdominal pressure, thus through weight and quantity exerting an impairing influence on the function of the abdominal organs. On the other hand, while the pathologic peritoneum is non-absorbent and needs rest, an entirely different state of condition prevails on the inside of the intestines, the mucous membranes of which are only too avid and able to absorb salt solution. But even here the solution should be administered very judiciously. Enemas of gallons of salt solution, as advised by some of the authors, I consider absolutely wrong from the standpoint that such a great quantity will act as an unfavorable ballast, while pints, administered from half-hour to one-hour or two-hour intervals after the operation, regulated by such indications as the pulse and general appearance give, seem to answer the requirements very favorably.

DR. J. G. CLARK—I am in entire accord with Dr. Bovée that too high temperature may produce very serious injury, even actual destruction and exfoliation of the peritoneal epithelium rather than the stimulating action desired. To avoid this I employ a saline solution at 110 F. In the event of not having a thermometer at hand, the temperature may be sufficiently accurately tested by having the solution poured on the upper arm, and when it is of a degree which may be comfortably borne it is safe for introduction into the peritoneal cavity. I believe it is possible to use too much solution, in other words, to waterlog the patient. Instead of distending the abdomen with salt solution, it is my rule at present to use not more than a liter. In my experience, cases of extra-uterine pregnancy in which rupture has occurred two or more days before operation are not favorable for saline infusions, for in these cases all of the lymph tracts are blocked with débris of broken-down blood, and, therefore, the eliminating functions of the lymph tracts are largely abrogated. In such cases, after having thoroughly cleansed the peritoneal cavity by repeated irrigation, I close without salt solution in the peritoneal cavity, but give even more than the ordinary quantity as a rectal infusion, placing the patient in such an exaggerated Trendelenburg posture, while she is under anesthesia, as to allow large quantities (1 to 2 liters) to run downward and backward into the upper colon. In several instances, while the abdominal incision is still open, I have seen the salt solution as it was introduced into the rectum, run backward through the descending colon across the transverse colon and up to the head of the cecum, thus proving beyond doubt that the solution goes beyond the sigmoid flexure. By keeping the patient in a slightly elevated posture, absorption rapidly takes place, and the patient, therefore, gets the full benefit arising from the dilution of the blood, which not only promotes the urinary excretions, but also assists in the elimination of the toxic matter. In a case of extra-uterine pregnancy, which died from a slow oozing from a ruptured cornu of the uterus, an autopsy was made, and the diaphragm was found deeply pigmented with blood, not superficially disposed over the entire surface, but completely filling and blocking all of the diaphragmatic lymph spaces. In this case large quantities of serum had transuded into the peritoneal cavity. Leucocytes were there in great abundance, but the exits for these combating factors and bearers of infection were most effectually blocked. In such a case, to further tax a peritoneal cavity by infusing large quantities of salt solution would appear at least unphysiologic, if not actually dangerous. As to appendicitis, I agree with one of the speakers that no greater surgical blunder can be made than to break open an already effectually walled off abscess. Nature here has done more than can possibly be accomplished by the surgeon in recklessly breaking down barriers which have been so effectually built up. In such a case there is no longer a peritonitis or even a peritoneal abscess to deal with, for it has become extraperitoneal through its barriers of adhesions and lymph, therefore the surgical dictum is, open the abscess and drain. My contention is not for the use of saline solution in such cases as these, but it is in cases such as pyosalpinx, ovarian abscess or appendiceal abscess, where the sac itself has been removed, that the peritoneal infusions are not only of value, but are curative and are infinitely more effective in promoting the convalescence and recovery of the patient than is the heavy packing with gauze or the introduction of such an ineffectual drain as a glass tube. Dr. Thienhaus has stated that the organisms are buried in the tissues and, therefore, saline infusions do not reach them. Certainly they are, but if you break up or remove an abscess they are promptly brought to the surface, and some of these organisms, to say the least, must contaminate the surrounding tissues and possibly escape into the general peritoneal cavity. It is in just such cases as these that the drain is of no value and is actually dangerous, while the saline infusions are most efficient. Relative to Dr. Bonifield's discussion, our differences are as wide as the east is from the west. His dictum is: When in doubt, drain; mine is: When in doubt, do not drain. For the last six years I have been studying this question constantly, and my opinion is unalterably fixed. With full respect to Dr. Bonifield's opinion, however, I would say that his opinion is the one which would be most generally sustained. Indeed, it is my rule, when teaching my students, to say to them that they may act on this principle so far as their own practice is concerned if they carry it out as they have seen it conducted in my clinic in the University Hospital, but that when they undergo examinations before state or hospital boards they are to be very guarded in this respect and rather lean in cases of doubt to the use of drainage. This concession, however, is only made in their interests in successfully passing state and hospital board examinations, and with no thought that such teaching is the best.

The intestinal canal, said S. Kellet Smith in the London *Lancet*, is a veritable "ptomain factory and bacterial seminary," and I long have been convinced that the toxic condition of the intestines is a frequent cause of appendicitis as well as a potent factor in causing the high mortality of this disease. We all know that the cases accompanied by constipation are more likely to result fatally than those in which we can procure free evacuation.

THE PHYSIOLOGY OF THE SYMPATHETIC IN RELATION TO THE EYE.*

G. E. DE SCHWEINITZ, A.M., M.D.
PHILADELPHIA.

[Dr. de Schweinitz reviewed the entire literature pertaining to the subject, and from this review and the various opinions of the authors quoted thought the following conclusions might be drawn:]

1. Although lachrymal secretion may be caused by excitation of the sympathetic, and increased lachrymation by section of the cervical sympathetic or removal of the superior cervical ganglion, the sympathetic itself should not be considered the nerve of secretion for the lachrymal gland.

2. Dilatation of the pupil is probably caused by contraction of a set of radially arranged muscular or contractile fibers, the so-called dilatator pupillæ, which is supplied by the sympathetic, and by inhibition of the sphincter of the iris. The dilating impulse transmitted to the iris passes through the cervical sympathetic and in general terms along the mydriatic tract of the pupil, which proceeds from a center in the medulla as far as the second dorsal nerve, follows its communicating branch to the cervical sympathetic, and arrives at the internal carotid plexus, from which point it passes to the nasociliary branches of the nasal nerve, which as the long ciliary nerves supply the muscular tissue of the iris.

3. Although experimental and clinical evidence favors the presence of a center situated between the spinal cord and the exits of the sixth cervical and fourth dorsal nerves, to which Budge relegated the origin of the pupil-dilating fibers of the sympathetic, its existence has not been definitely proven.

4. Although the nature of the ciliary ganglion has not been positively determined in any one species of animal, and, although it differs greatly in different species, the weight of evidence is in favor of the ganglion belonging to the sympathetic system, at least in so far as man is concerned. The root fibers which belong to the oculomotor end in the ciliary ganglion, where a new neuron begins for the fibers which pass to the ciliary muscle and the sphincter of the pupil, i. e., the oculomotor does not act directly on the sphincter of the pupil, but only in association with the ciliary ganglion. There is a certain amount of evidence that this ganglion is related to the pupil movements in the form of a center, and it probably contains cells which are active in the sensibility of the cornea, but lesions of the ganglion itself, although they have been considered by Grosz to be the basal cause of true neuroparalytic keratitis, have not been proved to sustain this position by experiments, inasmuch as trophic changes have not been observed after extirpation of the ganglion. Removal of the ganglion has little or no influence on intraocular tension, and its excision is not a rational procedure for the relief of glaucoma.

5. There is no satisfying evidence that the sympathetic is related to the function of accommodation, and it has not been proved that the sympathetic has any power in causing negative accommodation, nor has it been demonstrated that alterations in refraction noted after stimulation of the sympathetic are due to actual change in the lens.

6. Electrical stimulation of the cervical sympathetic produces at first an increase and later a decrease of intraocular tension, the increase being probably due to an effect on the vessels of the eye. Slow-acting, mechanically produced irritation of the sympathetic causes a rise of tension, which, according to Lodato, is independent of dilatation or constriction of the blood vessels, and also independent of the state of the pupil. Section of the sympathetic, or extirpation of the sympathetic ganglion, is followed by a fall of intraocular tension, which probably depends on vascular and, perhaps, muscular changes. The lowering of tension is more decided after excision of the ganglion than after section of the sympathetic cords, but in either case the effect is a temporary one, and may not last more than a few days, and sometimes disappears within a few hours.

7. Electrical stimulation of the cervical sympathetic produces on the side stimulated a dilatation of the pupil as a result of contraction of the dilatator pupillæ, associated, perhaps, with an inhibition of the sphincter. At the same time there may occur on the opposite side a contraction of the pupil, which either depends on the consensual pupil reflex, or represents a reflex transmitted through the sympathetic fibers joining the cranial nerves in the region of the cavernous sinus.

8. Electrical stimulation of the cervical sympathetic causes retraction of the nictitating membrane and proptosis, owing to the action transmitted to the unstriped muscular fiber. In contrast to the general rule, irritation of the sympathetic in rabbits causes a retraction of the eyeball in the orbit, which has been attributed by Heese to a contraction of the orbital vessels and the anemia which this causes.

9. Electrical stimulation of the cervical sympathetic is followed by contraction of the blood vessels of the conjunctiva and of the iris, and perhaps by alteration in the caliber of the vessels of the retina, although observations on the last-named phenomenon have been extremely contradictory.

10. Stimulation of certain areas of the brain cortex causes dilatation of the pupil, associated, if the cervical sympathetics are intact, with all the symptoms of stimulation of the cervical sympathetic. Division of the sympathetic stops the other symptoms, but not the dilatation of the pupil, which is supposed to be due to inhibition of the tonic action of the third nerve (Parsons).

11. Sympathectomy or gangliectomy causes the following effects: Myosis, narrowing of the palpebral aperture, projection of the nictitating membrane, retraction of the globe of the eye, hyperemia of the vessels of the conjunctiva, increased lachrymal secretion, diminished intraocular tension, certain ophthalmoscopic and microscopic lesions in the eyeground, and possibly trophic disturbances.

12. The symptoms of sympathetic section or paralysis lessen after a time, myosis being the most permanent, lasting sometimes for years. The degree of permanence, however, of the paralytic phenomena varies much in different animals.

13. Myosis is greater after excision of the cervical sympathetic ganglion than after section of the sympathetic cord, because it is probable that a certain tone is exercised by the ganglion; that is, that it has a different, and, as it was, a stronger action on the eye than the nerve trunk itself (Levinsohn).

14. All the phenomena of paralysis of the sympathetic nerve, especially the contraction of the pupil, which follow extirpation of the superior cervical gang-

* Author's abstract of a paper read at the Fifty-Fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John F. Weeks, and published in full in the Transactions of the Section. Only the conclusions of the paper are here given.

lion gradually become less marked and may disappear or even give place to the opposite condition, especially if the animal is anesthetized or subjected to sensory or emotional stimuli. In other words, extirpation of the upper cervical ganglion causes the symptoms of sympathetic paralysis which may disappear and give place to the signs of sympathetic excitation. Such paradoxical pupillary dilatation may depend on degenerative processes in the post-cellular nerves of the ganglion (Langendorff).

15. The myotic pupil, which follows sympathectomy or gangliectomy, responds to light stimulus, is still further contracted by eserin, and may be dilated by atropin. It is uninfluenced by cocain, which, however, may exercise its influence in widening the contracted palpebral fissure.

16. A considerable excision of the sympathetic must be made in order to prevent a rapid regeneration.

17. Narrowing of the palpebral fissure, ptosis sympathica, and enophthalmos are probably due to relaxation of Müller's muscle, aided, perhaps, by atrophy of the orbital fat. It has not been proved, although it has been asserted, that there is an actual reduction in the size of the globe, that is, a true microphthalmos, under these circumstances.

18. Sympathectomy or gangliectomy may cause increased vascularization of the eyeground, perhaps hemorrhages in the ciliary body and ciliary processes, and alteration in the retinal ganglion cells.

19. Puncture of the restiform body produces just the opposite effects of destruction of the sympathetic (Dupuy).

20. Nicotin paralyzes the activity of ganglionic nerve cells in the sympathetic. Cocain dilates the pupil by stimulating the mydriatic nerve endings in the iris. Atropin dilates the pupil, partly by a paralytic action on the oculomotor endings of the sphincter, and, perhaps, by a stimulant action on the sympathetic nerve fibers, or more likely, by causing a general paralysis of the unstriped pupillary muscle. Instillations of adrenalin, ordinarily inactive in causing dilatation of the pupil, become exceedingly active when the sympathetic is cut or the ganglion removed, and cause under these circumstances marked dilatation of the pupil.

INFLUENCE OF RESECTION OF THE CERVICAL SYMPATHETIC

IN OPTIC-NERVE ATROPHY, HYDROPHTHALMOS AND EXOPHTHALMIC GOITER.*

JAMES MOORES BALL, M.D.

Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons.

ST. LOUIS.

I. SYMPATHETICECTOMY IN OPTIC-NERVE ATROPHY.

History.—Excision of the cervical portion of the sympathetic nerve for the relief of optic-nerve atrophy was proposed and executed by the writer in 1899. (The date of the first operation was June 24.)

Report of Cases.—A report of this case was included in a paper[1] which was read before the Ninth International Ophthalmologic Congress, in 1899. From that paper I now quote:

T. J., aged 46, an inmate of the St. Louis City Hospital, a laborer, was admitted on account of blindness. There was no history of syphilis, rheumatism nor any systemic disease. The patient was of limited mentality. No history of his family could be obtained. He claimed to have had good health all his life, with the exception of an attack of malarial fever several years ago. The patient has been a moderate drinker of alcoholic beverages. In appearance he was robust, and he complained only of loss of vision, which in the left eye had been failing for eleven months, in the right for seventeen weeks according to his statement. Until seventeen weeks before this time he could see enough with the right eye to get around. Since then vision had steadily declined until he had light perception only—and this apparent only when light was concentrated on the eye by the ophthalmoscopic mirror. Vision of left eye =0.

The pupils were widely dilated. The ophthalmoscope showed in the right eye a white disc, particularly on the temporal side; the arteries were slightly reduced in caliber, veins normal. There was shallow, atrophic cupping of the nerve head. The retina and choroid were normal, the vitreous and lens clear. The left eye showed a disc of a dead white color throughout the whole area, arteries very small, atrophic excavation pronounced, veins reduced in caliber and choroid normal. The macula was not visible in this eye, owing to the much reduced blood supply. The vitreous and lens were clear. Vision was as follows: R. E. = perception of concentrated light. L. E. =0.

Diagnosis.—R. E.= optic nerve atrophy. L. E. = complete atrophy of optic nerve and retina.

Treatment.—Resection of the right superior cervical ganglion of the sympathetic was done. The operation was followed by conjunctival congestion, lachrymation and contraction of the pupil, slight ptosis and hypotonia.

No appreciable change in the patient's vision followed, and ophthalmoscopic examination made two weeks after operation showed no change in the appearance of the fundus, except that a cilioretinal artery in the upper part of the disc had doubled in caliber.

I was led to make this experimental operation for several reasons: 1. The use of glonoin is often followed by an improvement in vision in cases of simple atrophy of the optic nerve. 2. Glonoin enlarges the retinal vessels, as has been proved by ophthalmoscopic examination. 3. There is no question that in glaucoma simplex—a disease in which there is an atrophy of the optic nerve—improvement in vision follows sympatheticectomy. 4. Excision of the cervical sympathetic is followed by an increase in the blood supply of the orbital contents.

My second case of sympatheticectomy for optic nerve atrophy occurred in the summer of 1900. It has not been reported, for the reason that an assistant lost the case history. The result, however, was all that could be expected.

The patient was an Irishman, a bartender by occupation. He was about 40 years of age. For several months the visior of both eyes had steadily declined. Several oculists had given him medical treatment for simple optic-nerve atrophy without result. The poorer eye had vision equal to the counting of fingers at two feet. I excised the superior cervical ganglion of the sympathetic nerve on the corresponding side. Vision steadily increased to 20/100. The patient was lost sight of, but one year later he sent word that his vision was excellent and that he was following his vocation.

I regret that this case can not be more fully described. My third case of atrophy treated by sympatheticectomy occurred in 1901.

J. H., aged 64 years, a native of New York City, for 18 years had been a sailor. For many years he was excessively addicted to the use of alcohol and tobacco. In 1888 he contracted syphilis, for which he was treated for two months. Vision in R. E. began to fail in 1898; in L. E. in 1900. He was admitted to the St. Louis City Hospital on Jan. 29, 1901. The hospital record shows that he was in good general health. He was given large doses of mercury and iodids.

---

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Ball: On Removal of the Cervical Sympathetic in Certain Ocular Diseases—Glaucoma and Optic Nerve Atrophy, Neuvième Congrès International d'Ophtalmologie d'Utrecht, 1899, p. 551.

Patient came under my care on March 1, 1901. His general condition was good. Vision of R. E. =0; of L. E. = fingers at 6 inches. The ophthalmoscope showed a typical picture of simple atrophy of the optic nerves. Strychnia in increasing doses was ordered and was continued for five weeks without benefit.

On April 11, 1901, assisted by Dr. R. F. Amyx, I excised the left superior cervical ganglion of the sympathetic nerve. At this time the right eye was absolutely blind; with the left eye fingers could be counted at 6 inches. Two days after the operation he counted fingers at 15 feet. On April 27 he counted fingers at 12 feet. There was a gradual loss of vision, until at the end of a few weeks the patient was in the same condition as before operation.

Cases Reported by Other Surgeons.—Suker[2] performed a bilateral sympatheticectomy in a case of bilateral simple atrophy of the optic nerve. Before operation the visual acuity was reduced to form perception at two feet. After operation the hand could be recognized at six feet. Two years later the acuity was retained.

Renaud[3] has reported one of my cases and two of his own. In January, 1900, he made a bilateral sympatheticectomy for a unilateral optic-nerve atrophy which followed an attack of optic neuritis existing four months previously. Vision was reduced to the counting of fingers at six feet. Four and one-half months later the patient could count fingers at eighteen feet (V.= 20/100). Renaud's other case, which was one of simple atrophy, showed in two months an improvement in vision from 10/200 to 20/50. Renaud[4] has operated on another case without success.

E. Gruening[5] of New York has had one case which is best described in his own words:

My experience with the excision of the superior cervical sympathetic ganglion in atrophy of the optic nerve is limited to one case. It concerned a man, 33 years of age, who had contracted syphilis fifteen years previously. When I saw him in 1902 he was entirely blind as regards his left eye, but saw well centrally with his right. Here the field was telescopic, measuring ten degrees in diameter. Vision was 20/30. He read J. 1. Pupils small. Argyll-Robertson reaction—knee reflexes lost entirely—a case of post-syphilitic tabes with atrophy of the nerves. The ganglion was removed on the right side. Vision became worse and three months later the man was totally blind.

Thus, of 8 cases in which sympatheticectomy was performed by optic-nerve atrophy, there were 4 failures and 4 improvements.

Should Bilateral Resection be Done for Unilateral Atrophy?—At the present time it is impossible to answer this question *ex cathedra*. Renaud states that "the superior cervical ganglion should be removed on both sides in all cases, whether the affection be unilateral or bilateral." It is possible that the unexcised ganglion exerts an influence on the opposite eye, the anatomic path probably being through anastomosis of fibers in the carotid plexus.

II. TREATMENT OF HYDROPHTHALMOS BY OPERATIONS ON THE SYMPATHETIC NERVE.

Few cases of congenital hydrophthalmos have been treated by operations made on the cervical sympathetic. Palmtag and Nolle removed the superior ganglion, while Schwilke and Mader performed sympatheticotomy. These four patients were 8, 2½, 4½ and 9 years of age, respectively. The tension was uninfluenced, and the vision, so far as could be determined in such young subjects, was unchanged. The operations, consequently, were valueless. Grunert[6] states that the general health of these children was not influenced by these procedures.

III. OPERATIONS ON THE SYMPATHETIC NERVE FOR THE RELIEF OF EXOPHTHALMIC GOITER.

Exophthalmic goiter is a disease belonging to the domains of the ophthalmologist, neurologist, surgeon and general practitioner.

Without desiring to enter into a résumé of the literature of the last ten years or to excite a discussion on the nature of the disease, I will remark that there are good reasons for dividing cases of exophthalmic goiter into three groups, as advocated by Lanphear:[7]

1. Those dependent on changes in the central nervous system, in which no operative measures can be of benefit.

2. Those due to disease of the cervical sympathetic, in which excision of the ganglia may give relief.

3. Those arising from excessive thyroid secretion, in which thyroidectomy may cure.

Granting that a certain percentage of cases will recover spontaneously; that some will show great improvement without treatment; that others will recover under the rest cure, or by change of climate, or by the influence of pregnancy; and that some will recover under the use of such diverse measures as cauterization of hypertrophied inferior turbinated bodies, the removal of nasal polypi, the painting of the thyroid region with collodion, the use of the galvanic current, or of the faradic current the administration of iron, quinin, belladonna, digitalis, strophanthus, hydroiodic acid, ergot, spartein, salicylate of soda, corbolozate of ammonia, thyroid extract, etc., there will still remain a not inconsiderable number of cases in which surgical intervention will be required.

Before resorting to any form of operation it is well to remember (1) that no surgical procedure will cure all cases, and (2) that sudden death has not infrequently followed carefully planned and skilfully executed operations made on this class of patients. Harris[8] has reported the death of a lady who, having exophthalmic goiter, was operated on for the removal of a non-malignant mammary tumor and died suddenly. Lancereaux[9] has called attention to the danger of sudden death after goiter operations, and has commented on the great value of morphin in such patients. Warren[10] has advanced the idea that during the operation a toxic substance from the thyroid may gain admission to the circulation and cause death. Booth[11] states that, owing to the care which is now exercised in the removal of the diseased gland, this theory is no longer tenable.

Patients with simple goiter often do badly under general anesthetics. In addition to the dangers pertaining to such cases, the patients with exophthalmic goiter must face other dangers. The chance of death from chloroform, according to Halstead,[12] is much increased by the degenerated heart muscle and the increased irritability of the heart centers; and in the retrosternal

2. Suker: New York Medical Journal, Feb. 24, 1900.
3. Renaud: St. Louis Medical Review, Feb. 1, 1902.
4. Renaud: Personal communication, April 30, 1903.
5. Gruening: Personal communication, March 23, 1903
6. Grunert: Die Behandlung des Glaucoms durch Sympatheticusresection, Bericht xxviii, Versammlung der Ophthalmologischen Gesellschaft (Heidelberg, 1900), Wiesbaden. 1901, p. 19.
7. Lanphear: St. Louis Medical and Surgical Journal, May, 1900.
8. Harris: British Medical Journal, May 4, 1901.
9. Lancereaux: La Semaine Médicale, Paris, January, 1894.
10. Warren: American Year-book of Medicine and Surgery, Philadelphia, 1896, p. 289.
11. Booth: Radical Cure of Exophthalmic Goiter, Journal of Nervous and Mental Diseases, September, 1902, p. 521.
12. Halstead: Pathogenesis and Surgical Treatment of Exophthalmic Goiter, Medicine, September, 1902.

and retroclavicular forms of goiter ether anesthesia is equally dangerous. Fütterer has shown that collapse of the trachea, which may occur after operation for any form of goiter, is due to mucoid degeneration of the cartilaginous tracheal rings. The patient makes a violent inspiratory effort, collapse of the trachea results and death occurs by asphyxia. Because of these dangers, not a few surgeons, including Kocher,[13] believe that goiter operations should be performed under local anesthesia.

CLASSIFICATION OF OPERATIONS ON THE CERVICAL PORTION OF THE SYMPATHETIC NERVE.

These procedures, which have been tried in the treatment of exophthalmic goiter, are:

1. Simple division of the cervical sympathetic (first suggested by Edmunds[14] in cases in which perforation of the cornea is threatened, and first performed by Jaboulay).

2. Ablation of the cervical sympathetic, consisting in the torsion and ablation of the nerve by means of artery forceps passed through a small incision (Jaboulay's procedure).

3. Simple stretching of the cervical sympathetic (first practiced by Jaboulay).

4. Partial resection of the cervical sympathetic (first performed by Alexander of Edinburgh, in 1889, for the cure of epilepsy, and limited by him to the removal of the superior ganglion).

5. Partial and extensive resection (excision of the upper and middle ganglia with the intervening strand).

6. Total resection of the cervical sympathetic (removal of all three ganglia and the nerve strand). This was first performed by Jonnesco.

7. Thyroidectomy with partial and extensive resection of the cervical sympathetic, was suggested by the writer in 1901, in a case under the care of Dr. F. Robert Boyd, and was practiced by Dr. J. W. Smith of St. Louis.

The comparative value and mortality of exophthalmic goiter operations can not be definitely determined, because (1) many cases ending in death have not been reported, and (2) not all of the published statistics are reliable, there being in some of the published reports an absence of differentiation between the various procedures practiced on the sympathetic nerve.

1. *Thyroidectomy.*—The general mortality of this operation is 7 per cent. (Booth[15]), while the percentage of death in cases of exophthalmic goiter is much higher. Rehn[16] of Frankfurt, who collected 177 cases, places it at 13.6 per cent. Tricomini[17] (72 cases) places the mortality at 15 per cent., and Sorgo[18] (172 cases) at 14 per cent. Jonnesco[19] claims that the mortality is over 17 per cent., and rejects the operation because of the high death rate. Kocher's[20] recent statistics are very favorable. He made 59 operations: 45 cases (76 per cent.) were cured; 8 (14 per cent.) were improved; 2 (3.3 per cent.) were slightly improved, and 4 (6.7 per cent.) died. When we remember that many of the unsuccessful cases have not been reported, it seems reasonable to place the mortality of thyroidectomy for exophthalmic goiter at 20 per cent. Rehn[21] claims 57.6 per cent. of cures for thyroidectomy. Jonnesco claims that the reported successes of this operation have been largely among those atypical cases in which the goiter long preceded the ocular and cardiac symptoms. Doyon is a strong advocate of thyroidectomy, and would resect the sympathetic only after failure of the former operation.

The danger of sudden death after thyroidectomy is emphasized by Starr's report. Of 190 cases, not less than 23 died suddenly. Surrel,[22] who has recently discussed this subject, attributes these accidents to either an acute thyroidin intoxication, or to a sudden stoppage of the heart's action. The latter is supposed to be caused by the traction which, during the operation, is exerted on the nerves of the thyroid gland, which are intimately associated with the vagus nerve.[23] After thyroidectomy a number of complications have been observed, such as a rise of temperature, which is accompanied by a sensation of heaviness, dyspnea, tachycardia and vomiting. Hemorrhages, tetany and vocal disturbances, dysphagia and bronchopneumonia have also been observed.

2. *Ligation of the thyroid arteries,* according to Rehn,[24] gives a mortality of 28.6 per cent.; 2.4 per cent. were cured, and 50 per cent. were improved. Regarding this, Balacescu[25] says: "The method of ligaturing the thyroid arteries has been the first to be abandoned (among operations attacking the thyroid gland), because in nearly all cases the disease recurred in a few months after operation. Secondly, the execution of this operation was difficult where the thyroid was very large, especially in cases in which its relations to surrounding tissues were altered; or it predisposed to secondary hemorrhages on account of the fragility of the vessels." Kocher, Kopp and Rehn have recorded cases in which this operation was followed by tetany.

3. *Exothyropexy,* which was first done by Poncet and Jaboulay, consists in exposing the thyroid gland, and suturing it in the wound, where it is left exposed, in the hope that atrophy will occur. This operation has been abandoned by Poncet, because of the high mortality (23 per cent.) and the frequent recurrence of Basedow's disease after this procedure.

Simple Section of the Sympathetic Nerve.—Jaboulay[26] performed bilateral section in 6 cases and the unilateral operation in 2 cases. He records 2 cures, 5 improved cases and 1 death, which occurred 18 months after operation—a mortality of 12.5 per cent. In all of these patients the exophthalmos was influenced favorably after the first day; the thyroid enlargement disappeared slowly, while the tachycardia was scarcely influenced by the operation. He proposes that in cases in which the tachycardia is pronounced the inferior cervical ganglion shall be excised. Balacescu[27] claims that simple section influences the exophthalmos and thyroid enlargement but little, and the tachycardia not at all. Pean[28] pronounces the operation resultless and unnecessary. He advocates thyroidectomy. Gayet[29] has stated that simple section powerfully influences the triad

13. Kocher: Sixty-fourth Annual Meeting of the British Medical Association, Aug. 6, 1898.
14. Edmunds: Lancet, May 25, 1895.
15. Booth: Medical Record, Aug. 13, 1898.
16. Rehn: Münchener medizinische Wochenschrift, Oct. 10, 1899.
17. Tricomini: Il Policilnico, Roma, 1896.
18. Sorgo: Centralblatt für Grenzgeb. der Medicin, No. 1, p. 329.
19. Jonnesco: Revue Chirurgicale, November, 1897, supplement.
20. Kocher: Mitthellungen aus dem Grenzgebieten der Medicin und Chirurgie, 1902.
21. Rehn: Münchener medizinische Wochenschrift, Oct. 10, 1899.
22. Surrel: Des accidents qui peuvent compliquer l'intervention chirurgicale dans le goitre exophtalmique, Thesè de Paris, 1897.
23. De Cyon: Acad. des Sciences, 1897, Juin.
24. Rehn: Münchener medizinische Wochenschrift, Oct. 10, 1899.
25. Balacescu: Archiv für klinische Chirurgie, vol. lxvii, 1902.
26. Jaboulay: Chirurgie du Grand Sympathetique et du Corps Thyroide, p. 79, 1900.
27. Balacescu: Archiv für klinische Chirurgie, vol. lxvii, 1902.
28. Pean: Bull. Acad. de Med., Tome iii, p. 31, 1897.
29. Gayet: Lyon Médicale, No. 30, 1896.

of symptoms, and this effect is permanent. It must be remembered that Gayet's article appeared in 1896, while that of Balacescu was published in 1902.

5. *Stretching of the Cervical Sympathetic.*—In the only (Jaboulay's) case in which this operation was performed the tachycardia was markedly increased, the pulse ranging from 110 to 130 two weeks after the operation. The exophthalmos and thyroid enlargement were uninfluenced.

6. *Stretching of the pneumogastric nerve* has been tried by Jaboulay[30] in cases of exophthalmic goiter with severe cough. It is said to arrest the laryngeal spasms. This procedure must be regarded as dangerous and without curative value.

7. *Ablation of the cervical sympathetic* has been abandoned.

8. *Partial Resection* (Removal of the Superior Ganglion) *and Partial and Extensive Resection* (Removal of the Superior and Middle Ganglia with the Intervening Strand).—These procedures have gained an established position among exophthalmic goiter operations. Balacesu[31] reports 27 cases which were treated by partial resection, and were observed for periods varying from 1 to 4 years. In all of these cases there was rapid and pronounced improvement. The exophthalmos disappeared within the first few days, the thyroid diminished in the first 8 days, but the tachycardia persisted, the pulse ranging from 110 to 120. The palpitation did not return, and the facial expression was much changed for the better. After a time, the tachycardia showed a tendency to decrease, but never was as pronouncedly influenced as were the other Basedow symptoms. In this series of 27 cases there were 9 cures, 11 improvements, 2 uncured cases and 5 deaths, none of which could be attributed to the operation. The mortality of these procedures is small, probably less than 5 per cent. Sudden death, however, has occurred after partial resection. One such case, which was operated bilaterally by Bernays and Simpson[32] of St. Louis, died of heart failure on the 11th day. That partial resection is not always curative is shown by a case recorded by Chauffard and Quénu,[33] who removed the superior ganglia without influencing the exophthalmos and goiter. It seems reasonable to concede (1) that partial resection is the operation of choice in those cases of exophthalmic goiter in which the ocular and thyroid are more prominent than the cardiac symptoms; (2) that the bilateral resection should be made, but not at the same sitting, an interval of 2 or 3 weeks being advisable; (3) that the mortality is low.

9. *Total bilateral resection* is the procedure of choice among the sympathetic operations. Of 19 cases which are reported by Balacescu[34] as occurring in the practice of Jonnesco, Soulié, Faure, Peugnecz and Dépage,[35] in 14, after the second day after operation, the Basedow symptoms disappeared one after another. This improvement continued daily until cure was complete. This report is verified by the experience of Halstead[36] and Witherspoon.[37] Halstead, writing four weeks after total bilateral resection, says: "The patient's exophthalmos has greatly improved; the pulse is better, the tremor and general nervous condition are improved." Witherspoon, in 1899, was consulted by a woman aged 59 years, who showed moderate exophthalmos, marked enlargement of the right thyroid lobe, and a pulse rate varying from 130 to 150. She heard strange noises and had ideas of persecution; the skin was moist, and the urine showed casts and albumin. The diagnosis was chronic interstitial nephritis, associated with Graves' disease. Believing that in her general condition thyroidectomy was contraindicated, Witherspoon advised sympatheticectomy. On September 10 the operation was made on the right side. Eleven days later the left side was operated on. After the second operation the pulse showed improvement in quality and rate, the exophthalmos and enlargement of the thyroid almost completely disappeared, and her mental condition improved. In December she went on a visit to the country. In the following February, while riding, she became chilled and died two hours afterward. Up to the present time no deaths have been directly attributed to the total excision of the cervical sympathetic. The results are 63.8 per cent. of cures; 18.1 per cent. of improvements; 18.1 per cent. of failures, and no deaths.

10. *Thyroidectomy with partial resection of the cervical sympathetic* was performed on a patient of Dr. F. Robert Boyd by Dr. J. W. Smith and myself. The patient nearly died on the table from hemorrhage following the slipping of a ligature. She expired suddenly on the third day. The temperature rose suddenly and the pulse became too frequent to be counted.

The failure of thyroidectomy to relieve the exophthalmos of Basedow's disease was remarked on by Stevenson and Shears.[38] In the case of a woman, aged 25 years, from whom the right lobe of the thyroid had been removed 4 years previously, while the general symptoms were improved greatly, the exophthalmos had steadily increased. It is possible that cases presenting marked exophthalmos and thyroid enlargement without much tachycardia may be cured by thyroidectomy, combined with resection of the superior cervical ganglion.

CONCLUSIONS.

1. Excision of the superior cervical ganglion of the sympathetic nerve is worthy of a trial in those cases of simple atrophy of the optic nerve which resist measures less heroic.

2. It is yet impossible to say whether the bilateral operation is advisable in unilateral optic-nerve atrophy.

3. The value of sympatheticectomy in congenital hydrophthalmos has not been demonstrated.

4. In exophthalmic goiter, complete excision of the cervical sympathetic is followed by a larger percentage of cures than is any other procedure. Thus far no deaths have been recorded. The number of operations, however, is small and final conclusions can be announced only after a large number of cases shall have been treated by this method.

3509 Franklin Avenue.

30. Jaboulay: Lyon Médicale, April, 1898.
31. Balacescu: Archiv für klinische Chirurgie, vol. lxvii, 1902.
32. Bernays and Simpson: Personal communication, April 15, 1903.
33. Chauffard et Quénu: Presse Médicale, July 3, 1897.
34. Balacescu; Archiv für klinische Chirurgie, 1902.
35. Dépage: Societe Royale des Sciences Médicales et Naturelles Bruxelles, 1898.
36. Halstead: Personal communication, April 14, 1903.
37. Witherspoon: Personal communication, April 15, 1903.
38. British Medical Journal, Jan. 25, 1902.

International Anti-Rat Society.—Some years ago an international association was founded "to disseminate an idea as to the ravages caused by rats." An international exhibition of apparatus for the extermination of rats was held at Copenhagen in 1901, but at that time the rat did not have the same interest from a medical point of view that he now possesses. The permanent secretary is Prof. Peter Oesterby, 16 H. C. Orstedvej, Copenhagen, Denmark. A bounty of a penny per rat has been found to accomplish wonders in Denmark and in England. In London alone over 180,000 rats have been killed on the wharves.

PATHOLOGY OF THE CERVICAL SYMPATHETIC.*

JOHN E. WEEKS, M.D.
NEW YORK.

The departure from the normal in the cervical sympathetic may be classed under two heads, namely, irritation and paralysis.

1. The symptoms of irritation are: (a) mydriasis, due to spasm of the dilator pupillæ; (b) exophthalmus, said to be due to contraction of the smooth muscular fibers of the orbit (Müller's); (c) widening of the palpebral fissure by tonic contraction of Müller's muscle; (d) contraction of the walls of the vessels of the head, face and neck, including pallor of the skin, frequently with an increase in the amount of perspiration; (e) acceleration of the heart beat.

According to Nicati,[1] paralysis of the cervical sympathetic may be divided into two stages:

First Stage.—(a) Contraction of the pupil, (b) narrowing of the palpebral fissure (ptosis), (c) decrease of the tension of the globe, (d) increased lachrymation, (e) injection of the ocular conjunctiva, and, in many cases, (f) slight exophthalmus. There is also congestion of the corresponding side of the face, anidrosis in the greater number of cases, sometimes hyperidrosis; also acceleration of the heart action in a minority of the cases.

Second Stage.—The ptosis remains. The miosis persists for some months. The miosis, consequent on removing the stellate ganglion in animals, is recovered from in two to three months.[2] The tension of the eyeball becomes normal after some weeks or months, gradually becoming less pronounced. What may be termed the vasomotor disturbances disappear in a relatively short time. In exceptional cases, atrophy of the tissues of the corresponding side of the face follows.

Cases of irritation of the cervical sympathetic are not common. They have been observed as being due to abscess in the neck;[3] pressure of tumors, as malignant growths, cystic goiter,[4] with exophthalmus; thoracic aneurism;[5] injuries to the neck;[6] injuries to the spinal cord, between the fifth cervical and third dorsal vertebræ.[7]

Irritation symptoms may pass over to symptoms of paralysis and again return to those of irritation, due to irregular pressure. Cystic growths are most apt to produce these phenomena. In consulting the literature on affections of the cervical sympathetic, the writer has studied the reported cases of irritation of this portion of the sympathetic nervous system for the purpose of ascertaining if any of the patients suffered from glaucoma. Quite a full list of the reported cases of this nature is given by Lloyd.[8] In none of the histories of such cases is mention made of glaucoma as a complication.

Paralysis of the cervical sympathetic may be due to the pressure of tumors, glandular swellings,[9] malignant neoplasms,[10] cicatrices in the neck, aneurism,[11] abscess,[12] wounds of the neck,[13] injuries to the brachial plexus involving the sympathetic, diseases and injuries affecting the spinal cord, spinal caries, various pulmonary affections; paralysis of the cervical sympathetic also apparently occurs idiopathically.

Tumors originating in the sympathetic and interfering with its function are extremely rare. A case of fibrosarcoma of the cervical sympathetic is reported by Abbe,[14] and he refers to cases reported by Paget, Prudden, Virchow, Satterthwaite and Reynolds of neurofibromata affecting the sympathetic.

Of the symptoms said to be due to abnormal conditions of the cervical sympathetic and the consequent influence on the vessels, migraine may be mentioned. This may be preceded or accompanied by disturbances of vision, (a) periodic hemianopsia, (b) scintillating scotoma, (c) monolateral transient amaurosis, and (d) monolateral photophobia. Accompanying migraine we may also have flushing of one side of the face, anidrosis or hyperidrosis, with narrowing of the palpebral fissures and moderate miosis.

The affections of the eye, supposed to be caused in greater part by abnormal conditions of the cervical sympathetic, are glaucoma and exophthalmic goiter. It is not the province of this article to enter into a discussion of the relation of the cervical sympathetic to these diseases further than to inquire into the changes, if any, that have been observed in the tissues of the cervical sympathetic occurring in individuals affected by these diseases.

THE GANGLIA OF THE CERVICAL SYMPATHETIC.

The ganglia are surrounded by a thin, firm, adherent covering of connective tissue which sends prolongations into the ganglia, dividing them into compartments of various sizes and serving as a supporting structure. A delicate capsule, composed of a single layer of cells bearing nuclei, surrounds each ganglion cell. The ganglion cells have an average diameter of 20 microns, but vary from 13 to 40 microns. The ganglion cells possess one to three processes, one of which is an axon. The cells are made up of a protoplasmic body containing a nucleus and nucleolus. Many of the cells contain a greater or less number of pigment granules. The ganglia contain numerous nerve fibers, only a few of which are medullated. The blood vessels are small and not numerous.

The nerve-trunk resembles the ganglia, except that it contains no ganglion cells, and apparently contains a greater proportion of medullated nerve-fibers.

PATHOLOGIC CHANGES.

The writer has little doubt that the ganglia of the cervical sympathetic in the aged undergo degenerative changes to some degree. It is certain that these ganglia as examined in the dead-house vary much in size and appearance.

Hale White found in examining 33 semilunar ganglia, taken from persons dying from different causes, that most of them showed degenerative changes (Onuf and Collins).

Gustav Ricke[15] reports a case presenting symptoms of irritation of the cervical sympathetic. Autopsy showed round-cell infiltration and small hemorrhages in the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Nicati, La paralysie du nerf sympathetique cervical, Lausanne, 1873.
2. Onuf and Collins, Arch. of Neur. and Psych., vol. iii, Nos. 1 and 2.
3. Althaus, Med. Chir. Trans., vol. xli, p. 398.
4. Demere, Wurtzburger med. Zeitschr., 1862, bd. iii, S. 262.
5. Flint, "Clinical Medicine"; Walshe, "Diseases of the Heart."
6. Seeligmuller, Arch. f. Psych., bd. v., S. 835.
7. Rosenthal, "Diseases of the Nervous System," p. 216.
8. "Twentieth Century Practice of Medicine," vol. xi., p. 457.
9. Fränkel, Berl. klin. Woch., 1875, No. 3.
10. Verneuil, Gaz. des hôpitaux, April 1, 1864.
11. Gairdner, Edinburgh Med. Jour., 1855, p. 143.
12. Jewell, Chi. Jour. of Mental Dis., 1874, p. 15.
13. Weir Mitchell, "Gunshot Wounds and Other Injuries of Nerves," Phila., 1864.
14. Annals of Surgery, April, 1898.
15. Wiener med. Presse, 1884, p. 1077.

superior cervical ganglion of the affected side. He thinks that paralysis of the vasomotor fibers and irritation of the oculopupillary fibers occurred.

Petrow[16] describes changes occurring in the sympathetic in constitutional syphilis. In twelve cases which he examined he found distinct alterations in the nerve elements and in the interstitial connective tissue, hyperplasia of the latter being apparent. There was pigment and colloid degeneration in the nerve-cells, alterations in the cells of the sheaths of the ganglion cells consisting of increase in size and proliferation. The endothelial cells showed secondary fatty degeneration.

Pio Foa (*Sull' anatomia del gran simpatico*) wrote concerning some changes he had observed in the sympathetic in various diseases. These were found chiefly in the cervical and abdominal ganglia, and consisted sometimes of simple or fibrous atrophy, at other times of hyperemia, sclerosis, pigmentary and fatty infiltration, amyloid degeneration, accumulation of colorless blood-corpuscles and the presence of micrococci in the blood vessels of the ganglia. These alterations are well marked in syphilis, leukemia, pellagra, tuberculosis and infectious diseases.

Mention should be made of two reports by Koster[17] on the state of the cervical sympathetic in persons who had died suddenly from sunstroke. In one case, that of a soldier, the superior ganglion of the right sympathetic was twice the size of the left and was the seat of hemorrhagic effusion; microscopically, the nerve-fibers were seen to be separated and disintegrated. There were small hemorrhages in the upper part of the right sympathetic, while slight effusions of blood were found in and around both vagi and in the sheaths of both phrenic nerves. In the second case, that of a woman 21 years of age, the pathologic phenomena were a hemorrhagic infiltration and enlargement of both superior ganglia of the cervical sympathetic, while the microscope revealed the same appearances as in the other case: there were also ecchymoses as large as peas in both vagi. In the first case, the patient had lived twenty-four hours, having a pulse so rapid that its beats could scarcely be counted; there was, however, no acceleration of the respiration.

GLAUCOMA.

The ganglia excised in Ball's cases were examined by Dr. Carl Fisch[18] of St. Louis. A great number of different staining methods were employed, but those of Golgi, Marchi and Nissl were not employed, on account of the method of hardening the specimen. The changes found were approximately the same in all cases.

The most striking change was "a very marked hyperplasia of the connective tissue, which, in some places, resulted in dividing up the ganglion into small groups of nervous elements, separated by broad bands of fibrous elements." There was decided sclerosis of the walls of the vessels and the capsules of the ganglion cells were "much increased in thickness." "In Case 1, small foci of round-cell infiltration are seen in this hyperplastic growth of an inflammatory character." No "plasma or mast-cells" could be demonstrated.

The ganglion cells were "immensely" pigmented; many were in various stages of degeneration. Only a few showed normal dendritiform processes. The network of processes was reduced in volume and compressed by the connective tissue new formation. The general aspect was that of a general sclerosis, inflammatory and originating in the walls of the vascular structures. The changes in the nervous elements are attributed to pressure and inhibited nutrition.

Ziehe and Axenfeld (*Sympatheticus-Resection beim Glaucoma,* Halle, 1901) report the examination of five ganglia removed from three patients at Rostock. The ganglia were examined by Dr. Recker, Privatdocent, working in the Pathologic Institute at Rostock.

CASE 1.—Capsule thick; the connective tissue that accompanied the blood vessels was also thickened. Connective tissue poor in nuclei. Often the adventitia was thicker than the remaining portion of the wall of the vessel, plus the lumen of the vessel. A slight increase in the small cells was observed in the vicinity of the vessels. No change in nerve elements. Both ganglia presented the same microscopic appearance.

CASE 2.—Right ganglion; marked diffuse interstitial sclerosis, most pronounced in the vicinity of the larger blood vessels. Nerve elements normal. The left ganglion showed the same changes, but to a less degree. Leucocytes slightly increased in number.

CASE 3.—The left ganglion, which was the only one removed, showed increase of the connective tissue about the blood vessels; adventitia very much thickened. Diffuse interstitial sclerosis absent.

Lodato[19] examined two ganglia removed from a patient with glaucoma and found hyperplasia and sclerosis of the connective tissue and a peripheral small-cell infiltration. The sclerosis was more marked in the ganglion from the older patient, the small-cell infiltration in the ganglion from the younger patient.

In the first he found a number of small hemorrhages which had destroyed some of the nervous elements. There was some degeneration of a few of the medullated nerve-fibers. No change in the nerve-elements in the second case.

Lodato questions whether the small-cell infiltration might not have produced an irritation which could have caused a hypersecretion of fluids into the globe, and thus have established the first stage of the glaucoma. There is no report of control examinations.

Albertotti[20] gives an example of ten superior cervical sympathetic ganglia, the cut being reproduced from a photograph, which shows them to be of various sizes and shapes.

Cutler[21] reports, regarding the microscopic examination of one superior cervical ganglion removed from a patient suffering from glaucoma simplex, as follows:

Specimen 5 centimeters long, ½ centimeter in diameter. At one point for 1½ centimeters is a thickening. Sections through whole length of specimen show large ganglion cells. In these cells the chromophilic bodies do not show the normal size and arrangement, and many cells show small granules of pigment. A growth of connective tissue is between the ganglion cells. Nerve fibers are normal.

When we take into consideration the fact that degenerative changes in the cervical sympathetic occur in the old, whether there is marked evidence of disease or not, it becomes apparent that it is necessary to make control examinations before we can reach any reliable definite conclusion regarding the condition of the cervical sympathetic in individuals suffering from glaucoma, or, in fact, in any disease supposed to be due to pathologic changes in the cervical sympathetic. Such control experiments were made by Dr. Ira Van Gieson, in connection with the examination of the ganglia removed, in the cases reported by the writer.[22] His report follows:

16. Virchow's Arch., 1873, bd. lvii, p. 121.
17. Berliner klin. Woch., 1875. No. 34.
18. Ninth Internat. Ophthal. Congress, Utrecht, 1899, p. 554.
19. Arch. di ottalm., vol. viii, p. 358.
20. Ann. di ottalm., Naples, xxix, p. 472.
21. Annals of Surgery, Phila., September, 1902.
22. Trans. Amer. Ophth. Soc., 1902, p. 455.

Seven ganglia have been examined microscopically, including two bilateral operations, comprising thus five different cases. The work has been paralleled by the examination of control ganglia taken from subjects as near as possible the same age as the operation cases. As the control studies are very important in an examination of this kind, the normal ganglia were subjected to precisely the same steps as in the operation cases, and carried along with them side by side. Four ganglia of normal subjects were studied as controls and secured in autopsies averaging about twenty-four hours after death. (Thus far, however, but two of the control ganglia have been complete for study.)

We have endeavored to bring to bear on the question as comprehensive an examination as possible, and the technic has been directed toward all of the structures of the ganglion in the following order: (1) The detection of any cytologic changes in the neuron cell bodies. (2) A special study of the so-called pigment granules in the neuron cell bodies. (3) An examination of the connective tissue framework of the ganglion. (4) A study of the blood vessels; and (5) the examination of the medullated and non-medullated fibers.

Special methods, both of fixation and staining, have been used for each of these points in both sets of ganglia—the operation cases and the control cases—and in all some three hundred sections have been examined. Ten different fixations have been employed, as well as the several varieties of staining methods best adapted for the demonstration of each of the objects of examination.

1. *The Neuron Cell Bodies.*—Throughout the series of operated cases, the neuron cell bodies show the normal arrangement and distribution of the chromophilic granules. There are no evidences of degeneration, nor is there any atrophy or signs of disappearance of the neuron cell bodies. In a very few places, in fact, of quite exceptional occurrence, there are appearances which might be considered as similar to the form of chromatolysis in the centers of the neuron cell bodies seen in the central nervous system. This, however, is also seen in the control cases, and it seems to be of no significance in relation to the production of the glaucoma.

2. *The Pigment Granules.*—The capsules of the ganglion cells are also without alteration. The pigment grains are certainly increased in the glaucoma cases as compared with the control cases. A larger number of cells contain pigment grains in the glaucoma cases, and the aggregate volume of the pigment grains is greater. While the control cases contain a considerable amount of pigment particles, this can be reckoned as being only fifty to sixty per cent. of the quantity in the operation cases.

3. *The Connective Tissue.*—Studied in specimens prepared in Fleming's weak and strong solutions and stained by the picric acid fuschin method, the connective tissue framework shows no signs of proliferation or degeneration in the glaucoma cases. One would not be able to distinguish between the operation cases and the controls, judging by the connective tissue.

4. *The Blood Vessels.*—These were examined with especial attention, both in the substance of the ganglion and in the loose connective tissue surrounding it. The vessels are normal.

5. *The Fibers.*—The medullated fibers in the ganglion are so relatively few as compared with the non-medullated fibers that Weigert's method of staining the medullated sheath leaves the section quite decolorized. There are not enough medullated fibers to take the stain. Under the microscope, however, the bundles of fibers in the ganglion show here and there the darkly-stained medullated fibers among the axons. Compared with the controls there seems to be no differences in the non-medullated fibers.

Summary.—We find, then, that as far as our methods of examination of hardened material go the ganglia seem to be normal with the exception of an excess of pigment in the neuron cell bodies, and as to the significance of this, if it has any, we are entirely as yet in the dark. The result of the examination does not positively preclude the existence of a lesion in the ganglia. (The ganglia were examined at the new pathologic laboratory of the Women's Infirmary of New York.)

Dr. W. H. Wilder of Chicago has kindly permitted me to refer to the microscopic findings in the ganglia removed from patients with glaucoma in his service. The examinations were made by Dr. Sidney Kuh, who reports as follows: Excess of pigment in the ganglion cells (age a factor?); cells not round, often appear shrunken; eccentric nuclei, occasionally only the nucleolus visible; cells at times vacuolated; mast cells; vascularity. All of these findings were present in each case except the second finding (that of the cells not being round), as in some of the specimens the cells were perfectly round.

Onuf and Collins[23] write:

Concerning the morbid findings in cases of Graves' disease, Moebius has recently written: "All sorts of conditions have been described; the ganglia are too large or too small; the nerve too thick or too thin; there is too much connective tissue or too few nerve cells; the nerve cells are deformed, shrunken, or pigmented; there are small hemorrhages, destruction of nerve fibers, etc., etc. To all of which we make an affirmative, choosing to disregard the writer's attempt at irony. We have learned in recent years that in individuals dying of long-standing nervous disease, the so-called functional as well as organic, there are also invariably, especially if the individual be somewhat advanced in years, retrogressive changes in the nervous system. Although Moebius comes to the conclusion that in the majority of cases of Graves' disease nothing characteristic or essential is to be found in the cervical sympathetic to explain the pathogenesis of the disease, it does not seem to us that investigation of the vegetative system of nerves in its peripheral and central distribution has been sufficiently comprehensive to give tenability to his position."

The following report is from the examination of nine ganglia removed from patients suffering from exophthalmic goiter. Five of these patients were in the practice of Dr. B. Farquhar Curtis, who has kindly permitted me to make use of the report. The examinations were made by Dr. F. C. Wood, pathologist to St. Luke's Hospital, to whom I am indebted. I wish to express my thanks to both these gentlemen for their courtesy. This report is of practical value because of the control examinations, which were made in connection with the examination of the ganglia removed from patients suffering from exophthalmic goiter.

1. There is no definite increase in the connective tissue of the ganglia.

2. Pigmentation of the ganglion cells is quite constant and abundant, though not present in all cells.

3. A small proportion, always less than half, of the ganglion cells shows a central chromatolysis when stained by Nissl's method. In some cells the change was advanced and no chromophilic bodies could be seen; in others they were clustered about the periphery of the cell. The nuclei were often eccentric in the degenerated cells.

4. No fiber degeneration could be demonstrated. All the ganglia showed about the same changes.

Control ganglia from autopsy cases dying from a variety of diseases did not show marked chromatolysis, though an occasional cell with degeneration could be seen. The amount of pigment formed was variable in these controls. It was more abundant in the aged than in adults, but a certain amount seems to be present in some of the ganglion cells of the sympathetic, at least in cases which I have been able to examine.

Reports of changes in the cervical sympathetic observed in different pathologic conditions affecting the

23. B. Onuf and Joseph Collins: "Experimental Researches on the Cervical Sympathetic," etc., Archives of Neurology and Psychopathology, vol. iii, Nos. 1 and 2, p. 217.

system locally and generally, make it evident that as yet no change has been found that is peculiar to glaucoma. The findings in the cases of Ball, Ziehe and Axenfeld, Lodato and Cutler, are uniform in regard to the hyperplasia of connective tissue. This was also found by Petrow in cases of constitutional syphilis, and by Pio Foa in patients with various diseases. Slight infiltration of small cells does not appear to be peculiar to glaucoma.

Changes in the nervous elements are reported by Ball, by Cutler and by Kuh. These were not observed by Ziehe and Axenfeld, nor by Lodato, except in the presence of pigment granules. Changes in the ganglion cells were observed by Petrow in individuals suffering from constitutional syphilis. The validity of the statements regarding the uniform increase of connective tissue is somewhat shaken by the results of Van Giesen's examinations, as no such increase could be demonstrated in the seven ganglia which he examined. Kuh also fails to mention an increase of connective tissue.

The testimony in our possession is not sufficiently conclusive to enable us to say that there is any constant change in the cervical sympathetic peculiar to glaucoma. Nor is it sufficiently conclusive to exclude the possibility of such constant change. Farther and more careful research is necessary; first, probably along the lines suggested by Dr. Van Giesen, viz., by means of the Ehrlich methylene blue method with fresh ganglia or by other equally delicate methods for the purpose of determining the conditions of the processes of the neurons and the cell structure, and, second, a study of the pigmentation of the neurons, which must be made in comparison with control studies.

[The discussion on the papers of Drs. De Schweinitz, Wilder, Ball and Weeks will follow the paper of Dr. Wilder next week.]

PATHOLOGY OF INEBRIETY.*

T. D. CROTHERS, M.D.
SUPERINTENDENT WALNUT LODGE HOSPITAL.
HARTFORD, CONN.

The pathology of inebriety is the story of a long series of degenerative changes extending over many years, and also the record of brain storms and explosive liberation of nerve energies acting on defective cells and nerve centers. In all instances these changes appear in the walls of the blood vessels, the nerve cells and dentrites. The inebriate whose brain and body after death exhibit a confused mass of wreckage which the pathologist is often unable to trace back to the exact causes and conditions, has always sclerotic conditions of the large and small arteries, together with atrophic and hyperatrophic states of the heart, kidneys and liver with fatty degeneration, and calcification of the coats of the arteries. These organic changes are so frequently present in inebriates that they constitute a marked pathology which is traceable to the use of alcohol.

A large number of alcoholics die from acute diseases, and many of the organic changes found are referred to other causes, hence a distinct pathology is not often recognized. The more modern views of alcoholic degeneration indicate that the first pathologic changes following the use of spirits appear in the walls of the blood vessels, particularly in the vascular and capillary circulation of the brain.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

The special action of alcohol on the vasomotor centers, paralyzing and diminishing the caliber of the arteries and capillaries, both obstructs and changes the uniformity of the blood current. This is followed by defective nutrition and accumulation of toxins, also a diminution of the power of elimination. The conclusions of the London Pathological Society, which have been sustained by modern authorities, agree that the first action of alcohol in the body is checking oxidation, diminishing the oxygen-carrying properties of the hemaglobin and retarding the elimination of carbon dioxid. (2) This action is that of a corroding tissue poison by the absorption of water at every point of contact with the cells and tissues. (3) It is a functional poisoning, depressing, checking and changing the natural activities of the organism. The corrugation of the cells and nerves with fibrous and fatty deposits and low states of inflammatory action are the common results. Dr. Andriesen, the pathologist of the West Riding Asylum of England, concludes an exhaustive study of the injuries following the use of alcohol as follows: "There can be no doubt that alcohol taken in the body has a specific influence over the nutrition of the nerve cells, impoverishing and starving them, cutting off and diverting the dynamic forces followed by a shrinking and atrophy of both cell and nerve." Dr. Berkeley of Johns Hopkins Hospital has added to these some new studies of his own, showing that alcohol in the system has a peculiar eroding action on the cells. At first this is confined to local centers, which increases until finally a large part of the brain becomes affected. Dr. Van Gieson of the New York Pathologic Institute in many new researches with new methods of staining describes the altered condition of the blood cells and fibers which exists, and concludes that alcohol first acts as a corroding destructive force on the nutritive cells and centers as well as on nerve tissue. More recently these views, while being confirmed, have led up to other studies showing that the walls of the capillaries are most seriously affected by the irregular and convulsive flow of the blood currents. Alcohol not only produces increased functional activity with its irritation, but is soon followed by diminished force and power extending to states of palsy.

In these conditions the nutrition is disturbed and the irritation may concentrate and appear in certain brain areas, which from unknown causes are more vulnerable than others. There can be no doubt that toxemias of gastro-intestinal origin are very potent factors in producing favorable conditions for the increased corroding action of alcohol. Heredity, syphilis and many other causes often leave brain centers defective and on the borders of acute organic degeneration. The use of alcohol by paralyzing the vasomotor functions controling the contraction and dilatation of the walls of the blood vessels favors the beginning of organic changes in the capillaries and arteries which extend to the nerve cells.

The power of contraction and dilatation so prominent in the heart extends to the minutest blood vessels, and resembles a chain of local hearts controlling the blood pressure and regulating the rhythmic flow of the current according to the influences of heat and cold, irritation, nutrition and rest. Hence a process of actual differentiation concerning the movements of the blood in the capillaries is going on continuously. This process includes oxidation, nutrition and elimination, and its disturbance and irregularity is registered in the minutest arterioles as well as in the larger vessels.

Arteriosclerosis, the most common disease found in all inebriates, is degeneration of the structure of the walls of the arteries beginning in the capillaries of the brain and extends back to all the larger vessels in fibrinous deposits. When the blood current is loaded with toxins and defective nutrient plasma it moves in an irregular impulsive manner, hence the nutrition of the parts to which the blood circulates and the uniform flow of the current is disturbed. There is diminished oxidation, defective control and elimination. The red congested appearance of the face in persons who use spirits shows this condition. The dilatation of the capillaries is not due to the increased activity of the vasodilator nerves, but to a paralysis of the vasoconstrictors. This nerve action becomes intermittent, then increases to a degree of partial paralysis. The nutrition of the artery is affected and fatty degeneration follows with calcification of the middle coats of the artery, and increasing formation of fibrocellular tissue. The supply of nutrient plasma is diminished and the channels for obtaining this supply are modified and disturbed. Dr. Woodhead says: "I have been able to demonstrate that the walls of the blood vessels are the first to suffer organic change from the action of alcohol. Such changes occur first by a thickening of the inner coat followed by proliferation of the endothelial cells, then a thickening of the intima and adventitia, also wasting of the muscular fibers. This cellular increase is a veritable connected tissue group of degeneration. First it is proliferation of the endothelial and connective tissue cells around the connective tissue spaces, and secondly it is an accumulation of waste products. In some instances this may go on slowly, in others rapidly. Sometimes it attacks the liver; always the parenchymatous tissue, and in others the kidneys. In all cases these changes are seen in the capillaries of the brain. In the chronic form the muscular coats of the walls of the vessels disappear and the fibrous tissue is increased. The liver cells become atrophied, and fatty infiltration and degeneration follow. This formation of fibrous tissue is uniform, particularly in the heart, kidney, liver and blood vessels, also in the sheaths of the nerves. The lymphatics are also affected." The increased action on the heart interferes with the nutrition of that organ. The coronary artery is diminished in caliber and capacity to transmit the blood current, hence the increased heart's activity is followed by increased exhaustion. In all cases of inebriates the heart is either atrophic or hypertrophic, and both the quality and quantity of blood needed to supply its nutrition and carry away the waste is interfered with. The result is dilatation, deposits of fatty cells in the place of muscular fiber. Both the liver and kidneys suffer in the same way from increased work with impaired circulation and faulty nutrition. In the arterioles and capillaries the same disturbance follows, and the walls of the arteries are thickened or thinned. The postmortems of inebriates frequently show small ruptures and occlusions where certain areas which were cut off have been supplied by a collateral circulation. The result of these organic changes is anemia and exhaustion with increased use of spirits. Every intoxication from alcohol is a paralysis of the walls of the blood vessels and diminution of the nutrient plasma by interfering with its quality and absorption. This paralysis is in all cases either general or local.

In its general action profound stupor and coma follow, and in its local action excitement, delirium and delusions mark the character of the disturbance. This palsy is often due to the direct action of toxins in the blood both formed within and without the body, acting as irritants on localized centers. A number of authorities have shown that these poisons affecting protoplasm cells and dentrites are followed by great changes, sometimes by swelling and always contraction of the dentrites with tumefactions and fibrous growths. Bevan Lewis describes this condition as due to the swelling and subsequent contraction of the dentrites and the atrophy and shrinking of the cell walls. The serum infiltrations commonly found in the brain of alcoholics, together with the fibrous arteries, sclerosis of the nerves and capillaries and sclerotic state of the liver and kidneys all indicate a distinct pathology of inebriety. Why one organ should be more seriously affected than another is not yet clear. Why the heart should become enormously atrophied and the liver and kidneys remain normal in size and not seem particularly affected only in their functional activities and *vice versa* must be answered in the future. Outside of the gross appearance registered in the artery walls and the organic changes there are pathologic indications of psychic palsy which is common, although not studied. It is not known whether these alterations in character, consciousness and the higher psychic senses precede or follow the organic changes in the blood vessels and blood circulation.

In some instances they are traceable to defects of nutrition; in others to stress and strain following the sudden accumulation and liberation of nerve energy, also the association and disassociation of sensory activities. The general uniform paralysis of the senses following the use of small quantities of alcohol open up a new field for psychologic study. Kraepelin's studies have shown that the sight, hearing, touch, taste and smell, also the muscular power, are diminished and seriously disturbed by the use of a single ounce of ethylic spirits. This can be measured with instruments of precision.

In the laboratory the personal equation of the person experimented on is ascertained, then measurements of the senses after the use of spirits bring out this fact. In the more chronic cases these states of palsy are very apparent. The muscular paralysis is also very clearly defined, particularly on the heart and motor control. These measurements extend to time reaction, thought rapidity, memory, reason, judgment, and all the higher mental operations, and in all cases show that the action of alcohol on the higher brain is that of a depressant, anesthetic and paralyzant. This new field of psychopathology brings out some startling facts and explains in many ways the apparent diversity of symptoms of the action of alcohol on the brain centers. Why alcohol taken continuously in small quantities or at intervals to excess should so uniformly act on the higher brain or that part termed character, consciousness and ability to determine the quality of acts and duty, has been explained as the degeneration and disintegration of the last-formed and highest growth of the brain. Illustrated examples are very numerous of this fact and many explanations have pointed out states of fatigue, exhaustion and nerve instability which register themselves on these higher nerve functions in advance. Numerous experiments on the lower animals to determine the effect of alcohol have shown changes of cell and tissue with fibrous deposits and local inflammations clearly due to the toxic action of alcohol. The older pathologists whose experience was gained from the cadaver pointed out the uniformity of fibrinous deposits, serum infiltra-

tions and calcification of the arteries with foci of old hemorrhages. The modern pathologists show the occluded capillaries of the brain, the thinned and thickened walls of the arterioles and the deranged vascular circulation with evidences of local inflammatory action, also from the new method of staining the cell degeneration and sclerosis of nerve fibers. The psychopathologist with instruments of precision shows the functional palsy of both the senses and the psychical functions of the brain. The chemicopathologist points out the complexity of alcohol, depending largely on the substance from which it is made and its special peculiar action on cell and tissue, producing new toxins with new effects and localizing them in certain sections according to unknown favoring causes. The anesthesias so marvelous in their effects due to the ethers of alcohol are of the same class and their effects are equally pathologic. These are all intimations of a new field for the exact study of the action of alcohol on the body which awaits farther and more exact studies. Some of the conclusions which I wish to make prominent are as follows:

(1) In all cases of inebriety there are marked changes in the capillary and vascular system of the brain. The walls of the vessels show fibrinous deposits and sclerosis. The nerve cells and dentrites are altered and retracted, in some cases permanently destroyed; in all inebriates shrunken and disintegrated states exist.

(2) The liver, kidneys and heart show diminution or enlargement with fibrous and fatty deposits. Both the organic and functional activity of the organ are changed and sclerotic states are present. Conditions of starvation and poisoning exist in all cases.

(3) Pathologic changes are apparent in the paralysis of the sense organs and the higher psychic functions of the brain. These conditions are so common following the use of alcohol, sometimes in its moderate use, but always when taken in excess, as to constitute a pathology that is traced directly to alcohol as the most prominent cause.

(4) The recent researches into the chemicophysiologic action of alcohol on the heart, blood vessels, cells and nerve fibers show a paralyzing and eroding action that can not be mistaken for any other cause.

The final conclusion is that the peculiar brain and nerve wreckage so commonly seen in persons using alcohol is due to the specific cause, alcohol following a uniform line of degeneration which is traceable with more or less exactness.

DISCUSSION.

DR. ALBERT E. STERNE, Indianapolis—I would take exception to the statement made by Dr. Crothers that the parenchymatous changes in the liver are primary. I would ask him whether such changes are not always secondary to an inflammatory process.

DR. T. D. CROTHERS, Hartford, Conn.—Both primary and secondary. It may be either one or the other, according to the individual. There is no uniformity.

Secret Remedies.—Why can not physicians write their own prescriptions and adapt their remedies to the ever-varying exigencies of disease? Why should the vender of proprietary and secret remedies be upheld by so many of the profession, when Edward Jenner, after twenty-two years of laborious experimentation and research, freely gave the priceless boon attained to mankind, and when he could have made countless billions of money from the whole world by dispensing it as a secret and sovereign remedy against a loathsome and desolating scourge?—William T. Howard before the Maryland Medical Society.

CARCINOMA OF SPINE AND MENINGES SECONDARY TO CANCER OF THE BREAST.*

F. SAVARY PEARCE, M.D.
Professor of Nervous and Mental Diseases, Medico-Chirurgical College,
AND
A. C. BUCKLEY, M.D.
Adjunct-Professor of Histology, Medico-Chirurgical College,
PHILADELPHIA.

Ambulance History.—Susan R. White, aged 70, housework, admitted to Philadelphia Hospital, Feb. 8, 1902. Duration of illness: four months; one month in bed. Symptoms: Pain in chest, pain in back, vomiting and diarrhea, severe pain over precordia and stomach, sharp pains in the leg at one time. She has had a lump in the breast for three years. Bowels and urine are not under her control. Both legs are paralyzed; anesthesia is present up to the waist line.

Hospital Record.—(By Dr. Blayney, interne,) Chief complaint: Anesthesia and paralysis of the lower extremities.

Family History.—One sister died of inflammation of the lungs (phthisis it is supposed); one sister died of scarlet fever; another of "cold"; one brother died of pneumonia.

Past Medical History.—She had the ordinary diseases of childhood, and rheumatism.

Present Illness.—Last November she was taken with pain in the hips; after the pains ceased the track of the pain would be very sore. The anesthesia and paralysis came on suddenly. She lost control of feces, then of urine. She lost control of feces before the paralysis came on. She had pains in the shoulder and back, had a creeping sensation in the left side which became better on pressure. She was sleepless for three weeks before entrance to hospital, and had the dry mouth of dyspepsia.

Physical Examination.—Emaciated, aged white woman; chest emaciated; heart seems to have a systolic murmur; lungs resonant; liver and spleen apparently normal; pupils seem dilated, haze around edge of cornea; pulse soft, regular; tongue dry, with light-brown coat; extremities atrophied; knee-jerk absent in the left leg, present to a very slight extent in right. Anesthesia exists to waist or slightly below umbilicus. She said she felt a pin stick her on the foot of right leg. She can move toes of right foot very slightly, those of left foot not at all. Plantar reflex is gone. She has incontinence of urine and feces, and has a sore over crest of ilium on the right side, also a sore over the sacrum. She has a nodule in left breast, and looks pale and emaciated.

February 21.—Patient does not feel the prick of a pin on either sole of the foot, but does have occasional extension reaction. Knee-jerks are absent. Supra-orbital reflex is present. Pupils respond normally. Patient is very feeble and cachetic. Looseness of bowels exists, probably largely due to relaxation of sphincter ani muscle.

February 22.—Patient is becoming more cachectic and growing weaker. There is a great tendency to decubitus where pressure is slightest. Does not feel when sole of foot is touched, but Babinski sign is present.

February 27.—There is a great humping of the muscles of lower extremities at site of blister which was present on admission; over right ilium there is a large bed sore. Patient is very weak, and is taking very little nourishment.

Detailed History.—(As taken by Dr. F. Savary Pearce.) The patient was always well up to last November (three months before admission), when she complained of pain and weakness in her legs, which came on gradually, and also of pain in her back; there was no history of any injury. She has been confined to bed since. For the last ten days she has suffered from nausea at times; retching and severe diarrhea. She has complained of pain radiating across the chest from one shoulder to the other; also of pain in

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

the lumbar region, which she declares is constant. She has had no control of bowels or bladder for eleven days; she has not been sleeping well.

Examination.—There is paralysis of lower portion of body; legs are flaccid; no sensation to touch, heat or pain from umbilicus down. Knee-jerks are absent on both sides, as are also the Babinski sign and ankle clonus. Pupils are slightly dilated, equal, react to light and accommodation. Tongue is protruded straight; no tremor; slightly coated. She has a hard nodular tumor in the left breast, upper and outer portion, for the last three years. It has not been growing rapidly lately; there is no pain unless she hurts it. She had a bedsore in sacral region on admission. Heart sounds are weak, slight accentuation of second sound; somewhat irregular. Arteries are atheromatous; arcus senilis. There was marked anterior curvature of spine beginning at ninth dorsal and extending to vertebra prominens; considerable tenderness over lowermost portion of curvature, but no true kyphosis or palpable tumor about the spine. Anesthesia posteriorly extends to a horizontal line just below the iliac crests, in front to a horizontal line apparently one-half inch above umbilicus. There is an ulcer in the right lower quadrant of abdomen just internal to anterior superior spine. Patient breathes well by diaphragm. There is a diffuse semicrepitant mass in the epigastric region extending from the umbilicus up three fingers' breadth and shading off in lateral region; it seems to be slightly movable and to move with respiration. The sensation of heat goes below that of sense of touch. She has had considerable pain in the past in the lumbar region. Tapping patellar tendon gives pain in the back. Atrophy of all extremities is symmetrical. There is a slight tendency to extension of toes.

Diagnosis.—Compression myelitis or metastatic growth with compression. *Clinical Diagnosis.*—Myelitis.

March 21.—Patient had grown very weak, and toward the last refused all nourishment. Pain has been much less marked the last few days. She died this morning.

Autopsy.—(Made by Prof. Joseph McFarland.) The woman was greatly emaciated. Pleural sacs contain very little fluid; cavities dry in appearance. Left pleura contains very strong adhesions and can only be separated with difficulty. Right contains only a few adhesions. On both pleuræ the parietal portions were dotted over with small tumors, from the size of a pea to one centimeter in diameter, these being far more numerous in right pleura, there being only two or three in the left side and the right containing eight or ten. On section these were found to contain a semisolid cheesy material. These tumors did not involve the visceral pleuræ.

In left breast, about one and one-half inches to left of nipple, was a hard tumor about two inches in diameter. Skin strongly attached to tumor, but said tumor was freely movable over underlying tissues. On section tumor was found to cut with resistance, having a grating sensation; cut surfaces pale in color and very resistant to touch; skin strongly adherent to growth, being incorporated in its substance. (Saved for microscopic study.) The fourth and fifth ribs (left side) beneath site of tumor were softened, and on pressure a cheesy material would appear on their surfaces. (A portion of fourth rib saved for further study.)

On section of vertebral column and removal of cord there was found in middorsal region a small portion of cord about 0.5 centimeter in length, which was softened in appearance and to the touch. Above and below this portion of the cord for some distance there were strong adhesions; also the vertebræ in this region—four or six in number were softened in their bodies—a probe being readily thrust into them, showing distinct evidence of disease of the bones.

PATHOLOGIC FINDINGS (BY DR. A. C. BUCKLEY).

The interest, from a pathologic standpoint, centers about the spinal cord and its membranes. On gross examination there is to be seen on the anterior surface of the dura a mass of neoplasm about 5 mm. in thickness, extending from the tenth to the twelfth dorsal segments. The dura itself is considerably thickened. There can be seen clearly defined an ascending degeneration, limited to the postero-median columns, throughout the cervical region, and in the dorsal region as far as the eighth segment. At this level the lesion extends laterally, involving the postero-external columns, from which the gray substance can not be differentiated with the unaided eye. In the lower part of the tenth and the upper part of the eleventh dorsal segments there is an apparent diffuse myelitis. Below this there are distinct lateral lesions (descending degeneration).

The Neoplasm.—The pathologic material, consisting of the primary breast tumor, a fragment of the fourth rib and the spinal cord, was prepared as follows: The tumor and the affected rib sections were stained with hematoxylin and eosin; the cord sections treated with hematoxylin-eosin, nigrosin and the Weigert-Pal methods of staining. The sections from the primary growth show it to be of a pronounced scirrhotic type of carcinoma; indeed, in the part of the growth examined the connective tissue far exceeds the epithelium.

Sections made from the affected rib show the cancellated substance of the bone to be entirely replaced by a mass of carcinoma cells, which in many places have a distinctly alveolar arrangement, the epithelium approaching the columnar type. The compact portion of the bone is reduced to a mere shell. Where the bone has been reduced to small osseous islands, there are clusters of epithelial cells within the bone substance.

The neoplasm, in all probability, affected the rib by direct extension, since it occupied a position immediately beneath the primary tumor.

The pathology of the spinal cord closely resembles that of a similar case which I have reported and to the full description of which the reader is referred.[1]

Cervical Region of the Cord.—In sections taken at the highest part of this region the changes are pronounced but not widespread. The pia is thickened; the anterior sulcal vessels thickened, though the intima appears normal. The trabeculæ formed by the pial extensions are much stouter than normal, and there is a general interstitial overgrowth in the entire cross-section of the cord. The nerve fibers in the white matter of the postero-median columns are distinctly degenerated, as is shown by the Weigert-Pal method of staining, the nerve fibers being replaced by a neurogliar overgrowth. The nerve roots are normal.

Lower in the cervical region (about the third segment) the amount of degeneration in Goll's column is greater than that in the above sections, and the nerve roots contain an interstitial overgrowth of fibrous tissue and round cells. Specimens stained with nigrosin show the axis cylinders to be intact in the nerve roots. The gray substance shows no distinct changes other than vascular dilatation and a slight round cell infiltration. The central canal is not patulous, being occupied by a mass of small round cells.

Dorsal Region.—The lower segments contain the greatest amount of destruction; the tenth, eleventh and twelfth segments. The upper half of the eleventh segment contains very few normal nerve fibers, there being practically a transverse myelitis. The membranes are thickened and the nerve roots degenerated to a greater or less degree, no doubt having been affected by the inflammatory process in the meninges. The muscular

1. Jour. of Nerv. and Mental Dis., April, 1902.

tunics of the blood vessels in the nerve roots appear to have undergone a hyaline degeneration, as they stain very faintly. Other vessels, such as the sulcal vessels, in the same sections stain well. On the anterior surface of the dura there is a mass of epithelioid cells, corresponding to the neoplasm mentioned above, which contains elements similar to those in the breast growth and the affected rib. The cells are densly arranged in stout bands of fibrous tissue. In some areas there is a distinct alveolar arrangement.

The degenerative process affects chiefly the crossed pyramidal tracts in the lower half of the eleventh and in the twelfth segment. There is a marked vacuolation of the white matter and round cell infiltration. A slight interstitial overgrowth and increased vascularity are the changes in the gray substance in the dorsal part of the cord.

The position of the greatest amount of destruction to the cord substance is in the upper part of the eleventh segment, in which there are comparatively few normal nerve fibers in the entire cross section. There are scattered patches in the lateral and posterior columns, in which the destructive process has progressed very rapidly, as is evidenced by the presence of masses of granular debris instead of the vacuolation and interstitial overgrowth described above.

Lumbar Region.—It will be noted that following the transverse myelitis in the eleventh dorsal segment, there was an ascending degeneration; likewise below the level of greatest destruction, there follows, as usual, a descending degeneration. This in the lumbar region is not so marked as in the upper segments. In sections at the lumbar swelling the greatest change occurs in the nerve roots. The blood vessel in the fasicles are dilated and filled with blood. The majority of the nerve roots are the seat of an interstitial overgrowth varying in degrees, and much more marked on one side than on the other.

CONCLUSIONS.

We submit the following thoughts in concluding the study of this case of secondary carcinoma of spine and meninges, viz., the undoubted metastatic origin of the bony and meningeal growth from the tumor of the breast as shown by the alveolar arrangement of the cancer cells in all situations affected.

Secondly, from the necessarily imperfect clinical history (since the patient was apathetic and in extreme asthenia and cachexia when admitted to the hospital) it would seem that pain of root irritation of girdle type was the most prominent spinal symptom from the first, and was persistent.

Therefore, in the diagnosis of spinal meningeal growths, this case (with another of pedunculated spinal tumor already reported) would go in evidence that pain from the outset is an important sign of such secondary nervous invasion.

DISCUSSION.

DR. H. T. PERSHING, Denver—I have seen a case of recurrent carcinoma of the left breast followed by symptoms of myelitis involving the dorsal region of the cord and causing complete paraplegia, with loss of control of the bladder and bowels. There was some pain, but less than I expected in such a case.

DR. F. S. PEARCE—I am sorry I can not give a more accurate clinical study of this case, but when the patient was brought to the hospital she was practically unable to describe her symptoms and a thorough examination record was out of the question. In a case which I reported before the Philadelphia Pathological Society there was a primary growth involving the cord, and the patient complained of a considerable amount of persistent pain radiating about the body. The symptom pain may possibly assist us in differentiating between primary myelitis and the secondary form, due to metastases involving the meninges, as in the case I reported in this paper. More accurate diagnostic marks are what we must seek if we are to do these sufferers any good through surgery.

REPORT OF TEN* CASES OF MORPHINISM.*

A. J. PRESSEY, M.D.
CLEVELAND, OHIO.

The cases here reported have been selected from among many others which perhaps might be in themselves more interesting; but it has been my aim to select only such as would demonstrate the fact that many of the cases which appear to be the most hopeless will, when properly treated, become good and respectable citizens. A certain percentage of these patients may be restored to perfect health, physically, mentally and morally, and will remain so, regardless of the quantity taken, the length of time used, the manner of administration or the age. Just what that percentage is I do not know. It is with me an utter impossibility to even venture a guess as to who will remain free from the addiction and who will, as soon as the opportunity presents itself, relapse into the former condition. Being unable to distinguish between them, there remains only to do as we would with patients suffering from typhoid fever or pneumonia—treat every case and hope that he will recover and will not relapse. In reporting these cases I will give only a short description and history of each one, and I will not discuss treatment further than that they were treated according to the methods that I have previously described[1] to this section.

CASE 1.—Mr. F. F., aged 21, single, occupation painter, was admitted to the U. B. A. Hospital in the fall of 1895. His arms and legs were covered with needle abscesses, and each leg was wrapped in a flax-seed poultice from the ankle to the hip and each arm from the wrist to the shoulder. He was using this pus-covered territory for taking the hypodermics, and consequently made an abscess with nearly every injection. At the time of his admission he was using 60 grains of morphin hypodermically every twenty-four hours, having chills and fever, with a temperature going as high as 105. Thirty or forty abscesses were freely opened, and he had no further trouble with the chills and fever. He had been addicted to the drug for about four years. The morphin was reduced to 1/120 gr. at the end of about 8 weeks, when it was entirely withdrawn. He remained in the hospital six weeks longer, when he was discharged and soon went to work at his trade. He has since married, and is the father of one healthy child. His childhood was not spent in the best of homes nor his youthful days with good associates, nevertheless he is now an industrious man and a good citizen. He appears to be in perfect health and tells me that he never thinks of morphin more than as though he had never used it.

CASE 2.—Mrs. M. N. came for treatment in the spring of 1895; aged 30, married, general health good, occupation landlady, had used the drug six years. At the time of admission she was taking by mouth about 15 grs. of morphin per day. Five weeks were occupied withdrawing the morphin, and she remained two weeks afterward. A short time after her return home she was taken with sciatica. Her physician was true to her and did not give her any narcotic, but a friend and neighbor, who was an addict, after offering her morphin several times, finally persuaded her that one dose would do no harm and would give her great comfort. This manner of talk

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

1. THE JOURNAL A. M. A., Nov. 16, 1901, p. 1292.

to one in pain and one who was almost persuaded that she was obliged to have the drug was enough, and she was again in the morphin habit. As soon as she was fully recovered from the sciatica she returned for treatment for morphinism. In four weeks she went home free from the addiction, and has remained so since. At the time she left my place she weighed 128 pounds, which was 10 pounds more than she weighed when she came. Her present weight is 206 pounds and she is in perfect health.

CASE 3.—Mr. C. P., age 73, farmer, married, came to me in the spring of 1896. Seven years previous to that time he had had an attack of la grippe which had left him with an aggravating cough, and little strength and more or less neuralgic pains. His physician had given him a prescription containing a small amount of morphin. While the prescription was often changed in other ways, the opiate was continued in increasing quantities for seven years. During this time his health was very bad, being confined to the bed for fully one-half of the time and the remainder of the time unable to get out of the house except for short rides. Finally, in the fall of 1895 he went to California in the hope that the climate would help to restore his health. He had never up to this time suspected that he was addicted to morphin. He had taken enough medicine with him to last three weeks, and when that was gone he became very sick and was obliged to call a physician, who soon found that four grains of morphin would make the patient very comfortable and strong enough to get up and be around. After becoming convinced that he was a morphinist, he came back east and placed himself under my care. I withdrew the morphin very gradually and discharged him cured at the end of fourteen weeks. He improved rapidly, and in six months he was as well as most men of his age, and kept well until this spring, when he died of apoplexy.

CASE 4.—Mr. C., age 63, had contracted the habit through constant and long-continued use of a patent medicine that he was taking for some real or imaginary nervous trouble. When his physician found that he was drinking two or three bottles of this nostrum every day he soon discovered that he was addicted to the use of about four grains of morphin in twenty-four hours. His physician told me that for weeks he had been walking the house and moaning in a nervous and despondent manner which was pitiable to see. This despondent condition was probably caused both by taking the overdose of the drugs contained in the nostrum, aside from the opiates, and also by not getting enough of the morphin to satisfy the requirements of the habit. He came for treatment in May, 1897. I made no effort to reduce his dose for three or four weeks until he was in a better condition, when I reduced it very slowly, and discharged him at the end of eighteen weeks. He has since remained free from the addiction and has enjoyed very good health.

CASE 5.—Mr. B. came for treatment Jan. 20, 1898; single, aged 32, occupation gambler, very much emaciated, had used morphin twelve years. Was taking at the time he came for treatment 40 grains of morphin hypodermically, and drinking two quarts of whisky every twenty-four hours. His condition was apparently alarming. He had no appetite, could take no solid food and the stomach rejected most of the liquid food that we persuaded him to take. I very much feared that he would have delirium tremens, but he did not. I gave him whisky in reduced doses for ten days, then withdrew it. I gradually reduced the morphin until the first day of May, when he was taking only 1/240 of a grain at a dose, then discontinued it. At this time he had gained 35 pounds. He remained with me for four weeks longer and went away in excellent condition. It is now over five years since he was treated, and I have seen him in the past few days and he is the picture of health. He tells me that he never thinks of either the liquor or the morphin with the least degree of temptation. This seemed to me to be one of the most hopeless cases that I had ever treated.

CASE 6.—Mr. H. came for treatment Dec. 22, 1898; age 51, had taken cocain for eight years and morphin for many years longer. He never would tell me how long he had used morphin. At this date he was taking three grains of cocain and ten grains of morphin per day, but this was a reduction. He had taken much larger quantities. For two months before coming to me the patient was treated by an Eddyite. How much that had to do with reduction of his dose I do not know, but after he left my institution the Eddyite claimed that she had cured him of the habit by absent treatment. Formerly he had been a very social man, a pleasant and agreeable companion, but for a few years previous to taking treatment he had become almost a hermit; would lock himself in his rooms and scarcely see any one at all for weeks at a time, not even admitting his wife when she brought his meals. He is a successful merchant in our city, but during this period his business manager was the only person who would see his face for days. His addiction was complicated with chronic ulceration of the legs. There were five large ulcers on each leg, which covered nearly one-half the surface between the knee and the ankle. These healed very rapidly when they were given proper care. I withdrew the cocain at once, reduced the morphin very gradually to 1/160 of a grain at a dose and March 28 withdrew it altogether. He remained with me about a month after discontinuing the morphin. It was three months after leaving me before he went to his store. Since that time he has paid strict attention to business and is as fond of society as ever. After more than four years he is now apparently in perfect health.

CASE 7.—Mrs. D., age 49, married, had taken laudanum for eighteen years, health very poor, had been under the physician's care for about half the time for twelve years; came to me for treatment Dec. 27, 1898, at which time she was taking three ounces of laudanum a day. I gave her morphin in place of laudanum, and reduced the quantity to 1/120 of a grain at a dose by March 21, about eight weeks after commencing her treatment, when the morphin was discontinued. Her health and strength had improved constantly from the time that she came to me until she was entirely free from the morphin. She remained with me for five weeks afterward and went home in fairly good condition. After leaving my place she lived much of the time out of doors, driving about the country and assisting her husband at such work as she was able to do on the farm, and is at this time, and has been for all of these five years, better than she had been for twenty years previous. This patient, after she had made arrangements to come to me, was visited by her family physician and strongly urged not to try to get rid of the addiction, as he was very sure that in her feeble condition she would die, while she might continue to take the drug and live on, perhaps, for some years.

CASE 8.—Dr. B., 26 years old, single, came to me for treatment Jan. 27, 1898, taking ten grains of morphin a day. He had just previously spent fifteen weeks at another institution for the purpose of getting rid of the addiction and at the time of going there was taking thirty grains of morphin and from twenty to thirty grains of cocain per day. They had withdrawn the cocain and reduced the morphin to ten grains while under that treatment and then pronounced him incurable. Eight weeks after coming to me his dose was reduced to 1/120 of a grain and then withdrawn. He stayed with me for a month after discontinuing the drug and then went into the country to his father's home and worked on the farm until late in the fall. He is now practicing in our city, and seems as well and strong as he ever was.

CASE 9.—Mrs. B., physician's widow, age 53, general health bad, commenced using vaginal suppositories containing morphin twelve years before coming to me for treatment, for the past five years had used morphin hypodermically. Was suffering a great deal from pelvic trouble, headache and sciatica. She came to me Feb. 22, 1900. During her treatment she had several attacks of sciatica which prolonged her stay very much. She was discharged cured August 1. While this patient has not been cured quite three years, I wish to report the case for the purpose of showing that some patients will endure a great amount of pain after being cured of the morphin addiction and yet not return to the use of drugs. She has

had many severe attacks of headache and has at times been confined to the bed for days with sciatica. She suffers almost constantly with an ovarian trouble, and yet she tells me that she has never had pain enough to tempt her to take morphin. While she is far from being well, she is much better than while she was using the narcotic.

CASE 10.—Mrs. L., age 45, addicted to morphin eight years and to cocain for six years. At the time of admission for treatment, March 4, 1898, was using about 20 grains of morphin and from 30 to 40 grains of cocain per day. I have never seen another patient that was so badly troubled with cocain hallucinations as was this one. She imagined that she could hear persons talking about her constantly, and also that these persons could see her under any and all conditions. It was almost impossible to get her to undress to go to bed, as she was sure she would be seen by these imaginary persons; for weeks she could not be induced to take off all her clothing to be given a bath. She had taken treatment at three or four institutions for the purpose of getting free of the morphin. I am not sure whether or not she had ever been free of the drugs from the time she first began using them. Her mental condition was such that it made her an exceedingly difficult patient to care for. While she was entirely irresponsible, her cunning seemed to be more acute, and twice during her treatment she stole away, went down town and loaded herself with morphin and cocain. It was six months before I was able to get her free from the drugs. The hallucinations had grown gradually less and yet she was not entirely free from them at the time she left my institution in November. She could still hear whisperings and yet she realized that there was no person there, and understood that it would be impossible for one to be whispering and she be unable to see them. She remained in the city with a sister for two months and then went to London, England, where she visited relatives for three months. When she returned she was still annoyed with hearing whisperings, although these were all the while growing less. Up to this time she had had plenty of money. She had been married to a man of means, but two or three years previous he had deserted her. As a result, on her return from England she was penniless. She went to Chicago to seek employment. Being an intelligent and bright woman with good address she soon found work. To-day she is earning a good living, is perfectly contented, and says that she never was as well and happy as she has been since being free from the addiction.

While experience teaches us that many of these patients will relapse, yet I am sure that we are unable to select any particular person and declare his case to be hopeless.

There are probably few persons who would not prefer that a friend would contract diphtheria or smallpox rather than the morphin addiction, after understanding fully the misery suffered in mind and body by a morphinist. I practised general medicine for twenty years, but I do not believe that I have ever seen any other class of patients that were more anxious to be free from their ailments than are drug addicts; and yet the medical profession does not appear to be as much interested in them as their needs demand. Possibly this is so because the disease is often self-inflicted. I believe it is true that there can be as large a percentage of them restored to perfect health as there can be in the case of other patients suffering from some diseases where heroic efforts are being made to relieve suffering or save or prolong life. Hundreds of patients all over this country are to-day treating themselves with some secret or patent nostrum for the relief of this awful condition, not one of whom will be cured, but will go from bad to worse. If they are ever restored to health they must be under the control of some person other than themselves. It would seem to be plainly the duty of every physician to treat these, as it is to treat patients with other diseases. If circumstances are such that he can not give them the attention that their case requires, then it is his duty to give them such advice as will lead to their recovery.

900 Fairmount Street.

DISCUSSION.

DR. GEORGE E. PETTEY, Memphis, Tenn.—In my experience, the prognosis in these cases depends more on the cause of the formation of the habit than on the condition of the patient or the quantity of the drug he is taking. In some cases the habit is associated with a moral perversity or mental obliquity, and no matter what method of treatment is employed or to what extent the normal physical condition of the patient is restored, he will very likely resume the use of the drug under very slight provocation. On the contrary, those who become addicted to the habit accidentally, through the course of a painful illness or injury, or through inadvertently taking the drug in some preparation not known to contain it, constitute a more hopeful class of patients. They recognize their condition as one of abject slavery, and are willing to do almost anything to free themselves, but they have not the mental, moral or physical power to do so. When such a person is put into good physical condition, there is little likelihood that he will return to the habit. In my experience, those who use both morphin and cocain are much more apt to relapse than those who use morphin alone. We find that physicians acquire the habit oftener without real cause than do any other class of patients. They are apt to take it first as a stimulant to sustain them during prolonged working hours, and then, through overconfidence, they continue the use of the drug until they become slaves to it.

DR. A. J. PRESSEY, Cleveland, Ohio—I presume that in the majority of cases the morphin habit is acquired either through necessity or pleasure, and that the method of the acquirement has some bearing on the prognosis. In my paper, however, I included only those cases that appealed to me as hopeless, and in at least five of them there was no distinct cause or provocation for the formation of the habit. In the majority of cases, however, where a permanent cure is effected, the drug was probably first taken for the relief of some physical ailment.

THE TREATMENT OF EMOTIONAL DISTURBANCES.*

HOWELL T. PERSHING, M.D.
Professor of Nervous and Mental Diseases in the University of Denver.
DENVER.

An emotion is much more than a state of feeling. Intense fear, grief, anger or even joy begins as a sort of cortical storm which involves an energetic disturbance of the entire body. Such a disturbance may be a very serious or even fatal complication of a pre-existing disease. Thus John Hunter, suffering from chronic heart disease and liable, when excited, to attacks of angina, said that his life was at the mercy of any scoundrel who should make him angry. While to all appearance in his usual health, he was debating a question of personal importance to himself at a board meeting at St. George's Hospital. One of his opposing colleagues flatly contradicted him, a cardiac attack came on, he instantly ceased speaking, went into the next room and fell dead in the arms of a friend.

Not many cases are so dramatic and angina is fortunately not common, but all patients are more or less emotional, and it would be difficult to find a serious medical or surgical case in which the patient's emo-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

tional state is a matter of indifference. It is, of course, true that mental disturbances are generally only a partial or incidental feature of disease and that treatment should be directed mainly by the cause rather than by the symptoms; nevertheless, there are many important symptoms or complications, such as hemorrhage, fever or pain, which must be specially studied from their own point of view, and so it is with the emotions, which are sometimes symptoms, sometimes causes of new complications, sometimes valuable remedies. The physician, moreover, is sure to influence the patient's emotions whether he intends to or not. He ought, therefore, to understand them and see that they are influenced for good and not for ill.

Other agents, such as drugs or electricity, whose effects are rarely so profound, are carefully studied, but for some reason our profession as a whole has lacked either time or inclination for the systematic study of mental factors in the causation and modification of disease. It is safe to say that this defect will soon be remedied, and that the study of practical psychology will be carried on in the medical schools just as thoroughly and systematically as that of physiology or therapeutics. The purpose of the present article is to consider emotional disturbances as factors with which the physician must deal in every-day practice, and to classify the methods which theory and experience indicate as useful in treatment.

In all emotional states the physical disturbance, which is generally regarded as merely the outward expression of an inward feeling, is really an essential part of the emotion and is the cause, not the effect, of the feeling. To illustrate this theory of James and Lange, which is unreservedly accepted by Ribot, take any case of sudden fear. Suppose a man walking home at night is suddenly confronted by a robber who holds a cocked revolver at his head. Instantly the innervation of the whole body is changed. The heart is first arrested and then beats with wild irregularity; respiration, after a quick gasp, is shallow and rapid; there is a tendency toward both urination and defecation; the skin becomes wet and cold and its intrinsic muscles cause shivering and erection of the hairs; the voluntary muscles, weak and tremulous, waver between a tendency to headlong flight and complete paralysis. These motor and secretory reactions are instinctive, that is, they result from a prearranged, inherited mechanism in the cortex and efferent nerves, which is immediately put into action by the perception of the fearful object. Not until these motor reactions have taken place and the flood of sensory impulses from the disturbed heart, lungs, abdomen, muscles and skin has rushed back on the cortex is there any feeling of fear. Every other emotion normally consists of a similar process, perception or idea being the first, disturbance of the viscera and other organs the second, and the feeling peculiar to the emotion the last link in the chain of cause and effect.

It need hardly be said that all emotions having the same name are not precisely alike in different persons or in the same person at different times. Anything so complex must necessarily be subject to considerable variation. Thus in some persons the heart is predominantly affected in any emotional disturbance, in others the gastro-intestinal tract, in others some part of the genito-urinary apparatus, and so on. If an organ normally involved in an emotion be from any cause unduly irritable, it will react excessively, and the commotion may extend even to functions not normally involved, as when fear or grief precipitates an attack of neuralgia.

Emotions are contagious. An exhibition of fear excites instinctive fear in the beholder; courage in others inspires courage in us; a laugh spreads through a crowd, and so on.

The ways in which a physician may dissipate or control an undesirable emotion may be arranged under the following heads. It is necessary to keep these methods entirely distinct in mind, for, although we usually combine them in practice, the combination to be chosen varies greatly according to the nature of the case, and some one method is always the most important and so should predominate over all the others.

1. The idea exciting the undesirable emotion should as far as possible be removed and replaced by ideas of an opposite tendency, as when a patient who is frightened and depressed by the idea that he has heart disease is thoroughly examined and positively assured that his heart is perfect.

2. The motor reaction characteristic of the emotion should as far as possible be voluntarily suppressed and replaced by the motions and demeanor characteristic of the opposite emotion, as when a patient threatened with a hysterical spell forces himself to breathe deeply and slowly, relaxes the muscles and assumes a calm demeanor.

3. An exhausted and irritable nervous system must be rested, built up and soothed so as to make it less susceptible to emotional storms.

4. Poisons which irritate and depress must be eliminated, as in the so-called uric acid diathesis, uremia, diabetes, alcoholism, etc.

5. A diseased organ which sends abnormal sensory impulses to the cortex and thus causes the feeling of fear or of grief without such mental cause as would otherwise be necessary, must receive appropriate treatment, as in certain cases of disease of the heart, stomach, liver, intestinal canal or pelvic organs.

6. Other means proving inadequate, a painful emotion may be controlled by full doses of opium, as in the opium treatment of melancholia.

1. The first method, by which we seek to replace the exciting idea of an emotion with one of an opposite tendency, is the most obvious. Show the man who is afraid that there is no rational ground for fear, divert the attention of the person oppressed by sorrow to the cheering side of his situation, and very probably there will be a corresponding emotional change. Indeed, the method is almost too obvious, for many rely on it alone when physical remedies would be better. We have to apply this method most frequently to patients who wrongly believe that they are afflicted with a serious disease, especially disease of the heart or genital organs. In such cases, although a combination of resources is generally necessary, positive reassurance given after a thorough examination and repeated from time to time as its effect wears off, is often by far the most effectual remedy. A striking case came under my care five years ago.

Mrs. A., aged 55, whose home was in a Colorado town at an altitude of 8,500 feet, was told about ten years before, when consulting a physician on account of slight palpitation, that her heart was somewhat affected and that she must be careful. From this time on the fear of heart disease took possession of her and the heart seemed to grow steadily worse, especially when at a high altitude or on a journey. For two years she had felt compelled to live, with one daughter to keep her

company, in the comparatively low altitude of Denver, while her husband and the rest of the family lived some hundreds of miles away. This was no self-indulgent whim, but a real hardship to her and to all concerned. Examination showed that the heart itself was normal, although sensitive to emotional changes, so the real problem was to restore emotional equilibrium. Positive and repeated reassurance, together with the cheering prospect of living permanently in her own home, was the main remedy, everything else being intentionally subordinated. In a few months she rejoined her family and continued to live with them in far greater comfort than when she was being treated for her imaginary disease.

Every neurologist will recall similar cases and we are all familiar with the despondent young man who thinks that his sexual organs have been ruined when they are in reality normal.

The same principle is applicable to the treatment of night terrors. Acting on a recommendation of Gowers, I have long treated such cases by giving any medicine that the general condition may call for, with the positive assurance that it will enable the little patient to sleep soundly, and the promise that a small sum of money will be given for each good night. The prospect of reward puts the child into a cheerful frame of mind as it is falling asleep, and no doubt favorably influences its dreams. The threat of punishment would, of course, make the attacks more frequent. The cases in which this method will not succeed are rare, and the same treatment will generally break up any form of hysterical attacks in a child.

Physicians are in danger of suggesting depressing ideas to patients without being aware of it. We receive and examine patients as a matter of daily routine, but to the patient an examination is a momentous occasion which makes him unusually sensitive to unpleasant suggestions. In the reception room the first thing to strike his eye may be a copy of Rembrandt's grim picture, "The Lesson in Anatomy," or a view of some famous clinic, or a pathetic scene about the bed of a sick child. The consulting room may be, as a popular humorist describes it, "the chamber of horrors where they keep the skulls and butcher knives." It ought to be needless to say that a patient's thoughts ought not to be turned toward disease and suffering any more than is absolutely necessary. Surgical instruments, anatomic and pathologic specimens and plates, books with gruesome titles and everything of the sort may very well be kept out of sight. On the other hand, all the decorations should be as remote from the idea of disease and as tranquilizing as possible. A physician in making an examination may very well drop an occasional reassuring word as he finds one function after another to be normal. He ought not unnecessarily to mention aneurism, Bright's disease or carcinoma; and he should set an example of unruffled serenity while showing a lively interest and human sympathy.

2. In many cases of morbid emotion the mere appeal to reason will not be sufficient, because the exciting idea is not a reasonable one. Few persons are so fortunate as to wholly escape fits of the blues which are wholly unreasonable. Many a neurasthenic knows perfectly well that he has no reasonable ground for fear, and yet is horribly afraid, just as we all have been at some time when about to speak in public. Here the second principle comes into play. The patient must suppress as far as possible the motor reactions of the depressing emotion and voluntarily imitate those of its opposite. The raw recruit about to go under fire, who is really badly frightened, but who resolutely steadies his trembling limbs, breathes regularly and marches erect, with a bold countenance, not only helps his comrades but also helps himself, for he has to a certain extent substituted the sensations of courage for those of fear.

The power thus to overcome fear grows rapidly with the successful exercise of it, and graduated exercises in putting on a bold front are a most valuable resource in treating neurasthenic fear. An intimate friend, who has for many years successfully practiced medicine under the burden of a multitude of unreasonable fears, tells me that he has derived most benefit from resolutely doing a little of whatever he happens to be afraid to do. It is important that a physician should not demand more of the patient than he can nerve himself to do, for one complete failure may demoralize for a long time.

The most brilliant success often follows the application of this principle to the treatment of hysterical attacks, providing the patient is mature enough and reasonable enough to make a vigorous effort. Convulsive hysterical attacks, both minor and major, are exaggerated emotional disturbances whose motor reaction is largely in the voluntary muscles, especially those of respiration. Let the patient note the first premonition of the attack and she will find that respiration is becoming rapid, shallow and jerky. It must be made slow, deep and regular by sheer force of will. When respiration has been attended to the muscles of the trunk and limbs will probably be found excessively contracted; each group must be voluntarily relaxed and then the breathing attended to again. These instructions, if faithfully followed, will stop any ordinary attack, and most patients can be made to follow them, especially if reassurance in adults or the promise of reward in children be skilfully combined. The following case will serve as an illustration:

A. B., male, aged 25, came to the County Hospital in Denver, March, 1898, to undergo an operation for the cure of convulsive attacks which were supposed to be epileptic. The convulsions were prolonged and violent, and they had become very frequent, but they were clearly hysterical; he was told that no operation could do him the slightest good, but that he could be cured by other means. This apparent underestimate of the importance of his case disappointed him and he left the hospital, but a few days later he came to my office and asked me to treat him privately. As the case seemed to be difficult, a great deal of care was taken to gain his confidence and to properly instruct him. Very soon afterward he had the beginning of an attack which he almost entirely aborted by voluntary breathing and relaxation. This greatly encouraged him, and the attacks soon ceased altogether. He returned to his home in a mountain town, and a few months ago I learned that he had passed an insurance examination, and had been free from attacks for the past five years.

3. In many cases of neurasthenia the two preceding, purely psychologic methods will not suffice. The cortex is in such a state of irritable weakness that the slightest cause of annoyance, fear or grief will have an excessive bodily reaction. In such a case shelter from annoyances, rest, sleep, an abundance of nitrogenous food and such medicines as strychnin, iron and arsenic are of the greatest value, but it is unnecessary to repeat here what is already familiar. One detail of treatment, however, I would like to mention. Small doses of opium (one-twelfth to one-sixth of a grain of the extract three or four times daily, about what would be used to relieve excessive cough) prevent the reaction to a large number of inevitable, trifling annoyances, and

thus give the patient a chance to rest. If such doses are properly combined with other remedies and the patient is not allowed to vary the number of daily doses, they involve no more risk of the opium habit than does the use of an ordinary cough mixture.

4. It is not necessary to say much about the elimination of poisons. Analogy leads us to believe that such terrible emotional disorders as melancholia, mania, acute delirium and transitory frenzy are forms of intoxication, although the poisons have not yet been discovered, and if the cause of any emotional disturbance is obscure we should always carefully consider the possibility of its being a poison of some kind. Byron is quoted as saying: "Talk about champagne! Nothing cheers the spirits like a dose of salts," from which one may safely infer that some, at least, of Byron's melancholy moods were caused by intestinal toxemia.

5. The ancient belief that localized disease of the abdominal viscera causes depression, fear or bad temper, is embalmed in the words melancholia, hypochondria and spleen, and in a general way it has been amply confirmed by modern observation. Part of the emotional effect of abdominal disease is probably due to the formation of toxic substances, but much of it is no doubt caused, as pain is, by the direct transmission to the cortex of abnormal sensory impulses. A diseased heart may also disturb the emotions in two ways: by failing to furnish the brain with a proper supply of blood and by sending abnormal sensory impulses. The altogether different effect of disease of the lungs is illustrated by the euphoria sometimes seen in pneumonia, and the proverbial *spes phthisica*. Although much has been written concerning the relation of mental symptoms to visceral disease, our knowledge of the subject is still vague and incomplete. The necessity of treating any local disease which depresses or irritates the brain, is obvious enough, but the causal relation ought to be very clear before serious operations are undertaken for the relief of mental symptoms. Many gynecologists have undoubtedly gone too far in removing the ovaries or uterus for the relief of mental disturbances, which were really dependent on quite different causes.

6. Finally, there are cases of emotional disturbance, more particularly of melancholia, in which psychologic methods of treatment are of little or no avail, and in which we are ignorant of the physical causes, and can attempt to remove them in only the most indirect and uncertain way. Here opium is a most valuable remedy, just as it is in cases of pain where the cause can not be removed. It not only relieves a considerable part of the mental suffering, but it also tends to prevent the physical deterioration.

DISCUSSION.

DR. H. T. PATRICK, Chicago—I am in hearty accord with the principles and technic indicated in this paper, and would only add one point, and that is, the supplanting of a good idea for a bad one, or the removal of a fear by a process of demonstration. The mere suggestion or statement of the physician is often not sufficient. We must institute a process of education, and there is nothing better for that purpose than a plain demonstration. Frequently I take a patient who is convinced that he has heart disease for a vigorous run up two or three flights of stairs, or make him run a number of times back and forth the length of my office, in order to show him that he has a perfectly competent heart; to convince him that he can not have heart disease and do what he has done. Then we see the man who complains that his food remains in his stomach for two or three days; that he feels it there. I instruct him to eat a hearty dinner at 6 or 7 o'clock, and the next morning I wash out his stomach, demonstrating to him that the stomach is empty, and hence takes care of his food better than he thought. Then we have the patient who says he does not sleep. I instruct him to go home and stay up all night, and report to me the following morning. He does so, perhaps not having slept at all. I then instruct him to stay awake all day and the following night, and I usually find that he is unable to do so. When such a patient finds that he absolutely can not stay awake for two nights in succession, he will make up his mind that he is not going to die from loss of sleep.

DR. JOHN PUNTON, Kansas City—The profession generally has been very slow in learning the treatment of some of these emotional states, but I am hopeful that the treatment will be placed on a more ethical basis. If drugs will not reach the case, and surgery aggravates it, and massage and hydrotherapeutics have been appealed to in vain, we have still open to us a very potent method of treatment which is embraced in the term mental therapeutics. The application of this method requires tact and experience and good judgment. We are on the eve of a new departure in the treatment of these cases, which have heretofore baffled us, only to be cured eventually by the psychologic methods of the ordinary bold quack, much to the chagrin of the physician.

DR. B. F. TURNER, Memphis, Tenn.—Although the time has not yet arrived, and I doubt if it ever will arrive, when we can dispense with our materia medica, still the time is here to employ psychologic influences in the treatment of certain conditions. In fact, the time for its use has always been here, but psychology has been so much abused under the name of the various "isms" that it is difficult for the unfortunate sufferer who lends himself to it to distinguish between the true and the false. Will this particular phase of therapeusis ever be straightened out? Dr. Pershing referred to the beneficial influence of a cheerful attitude on the sick and suffering, but he made no mention of the occasional value of an attitude opposite to the cheerful. He said nothing about portraying to the young man who is on the road to drunkenness the evils that may result from the excessive use of alcohol. He said nothing about the possibilities of a life of lewdness. All these suggestions can be made valuable as therapeutic agents. The pity of it is that the laity will probably never be much better educated than it is to-day, and as long as that is so the charlatan will be able to impose on the credulity of the ignorant. I approve of Dr. Pershing's condemnation of the popular advertising mediums which are found in too many professional offices. The various apparatus and other articles in evidence in a physician's office are too often put there as cheap methods of supposedly enhancing his dignity.

DR. F. SAVARY PEARCE, Philadelphia—While the public press is willing to uphold the honest physician in the community, and will do it, it will at the same time not hesitate to publish the advertisement of this or that impossible "cure." Such advertisements have a great influence on the ignorant, and even on those who should know better. Our discussion on this subject will never amount to anything until we can educate the public. Every physician must share a part of the responsibility for educating the public. We are not physicians for money alone. We have a duty to the public to perform, and it should be done fearlessly.

A girl had middle-ear disease, and was treated by one of our best aurists. He operated on the mastoid, and curetted the bone, but the patient, though apparently well, still complained of pain. When I examined her, I made up my mind that there was no real cause for pain; that what she complained of was simply a "remembrance" pain. I took her into the hospital, and on the following day, in passing her in the ward, I intentionally struck her over the ear where she complained of the pain, but the blow did not hurt her, to her surprise. In the course of a few days she ceased to complain of pain, and was able to leave the hospital, a perfect demonstration of pure emotionalism.

DR. H. T. PERSHING—For two years I have been giving to our students in Denver a systematic course of lectures on

psychology, as applied to the practice of medicine, and the main point I always emphasize is that mental influences are not to be used in a haphazard way. Psychology, just as is physiology, is a real science and a very important one for us to apply. Let the intelligent physician insist that its importance shall be recognized in our medical schools. The patient has not only a body, but also a mind, and we should not attempt to separate them. The daily newspapers and even the high-class magazines do much toward spreading broadcast the seeds of mental disease among the laity. The physicians should recognize the value of mental influences, and when a patient is in need of such treatment, he should receive the best possible from a regular physician, and not be turned over to the quack and charlatan. It is not necessary to resort to deception. You can do everything you wish and still be perfectly honest. Of course, the use of proper drugs is not to be neglected, but in my paper I purposely emphasized the importance of mental treatment. I think that anyone who has used the method referred to in treating hysterical paroxysms will appreciate its value. Just tell your patient that when the premonitory symptoms come on, he should not forget your instructions, but inspire deeply and slowly in order to avert the attack. Then if the voluntary muscles are tense, they should be relaxed. Of course, the general hysterical condition must also be treated, but mental influences are the essential factors in overcoming this condition.

PULP HYPERTROPHY OF THE TEETH.*

OSKAR RÖMER, M.D.
STRASSBURG, GERMANY.

I was first led to the histologic examination of pulp hypertrophy by the desire to find the conditions of the nerve supply in this so highly-altered pathologic tissue; in the study of the nerves I found not only what I expected—partly complete absence of nerves and partly marked decrease of nerve fibers, thus explaining the great difference in sensitiveness—but also some other very interesting discoveries which I believe are new.

Pulp hypertrophy is to be considered as a new tissue formation due to chronic pulpitis from exposure through more or less complete destruction of the overlying protective tissues. This new growth consists of a comparatively coarse granulation tissue in which three layers can be distinguished. The outer layer consists of a thick stratum of white blood or pus corpuscles beginning to break down, then follows a somewhat wider zone consisting of a proliferation of endothelial cells and capillary vessels, which, seen with a less magnifying power, has almost the appearance of granular layer, similar to that before described in the so-called endothelial granuloma of the dental root. The third layer, which forms the chief mass of the tumor, consists of a coarse, connective tissue with dilated blood vessels interspersed with crowded round cells.

Up to the present I have studied about 30 different specimens mostly obtained in clinics, but for part of which I have to thank my colleagues. I have prepared them in the following manner:

First, I placed the whole tooth with the pulp *in situ* in a 10 per cent. formalin solution, then decalcified it in a 33 1/3 per cent. formic acid solution (which is, as a rule, accomplished in two or three weeks), then divided the tooth, together with the hypertrophied pulp, into two nearly equal halves. Of these halves, such as seemed most suited for further treatment for microscopic examination were taken. These were imbedded in celloidin and cut with the microtome into the thinnest possible layers and then stained partly with alum hematoxylin and picrofuchsin (Van Gieson) and part with Weigert's medullary staining process in which the nerves and their medullary layers appear as dark blue-colored fibers on a yellowish background.

This shows that in so-called pulp hypertrophy (which arises like a fungus from the pulp chamber and generally fills the carious part crown of the tooth) nerve fibers are absent. In the pulp cavity itself and in the root canals, on the other hand, numerous nerve bundles are found according to the degree of degeneration of the pulp tissue. This degeneration consists in a transformation into granulation tissue, particularly where infiltration with round cells changes into granulation. The nerve fibers are already broken down or beginning to be degenerated, as shown by distortive interruptions and knot-formed swellings of the nerve fiber. Such degenerative processes of the nerves can best be seen in pulps which have been laid open by fracture in attempts at extraction and in which the superficies of the exposed pulp is changed into granulation tissue and pulp hypertrophy.

The study of preparations stained by the Van Gieson methods has convinced me the difference claimed by Rothmund and Arkovy between pulp hypertrophy and pulpitis chronica hypertrophica granulomatosa does not exist. By the pulpitis chronica hypertrophica granulomatosa is understood (according to Rothmund and Arkovy[1]) a granulating mass of the pulp from the size of a millet seed to a pea, soft with little consistency and extending over one or two pulp points. The pulp hypertrophy, on the other hand, which Arkovy calls pulpitis chronica sarcomatosa is a compact, dense neoplasm caused by proliferation of the pulp tissues, distinctly limited, generally smooth and only here and there slightly lobular, less vascular, extending over the whole pulp cavity, except perhaps some very slight portion, including the whole crown cavity of the tooth.

I find neither clinically nor histologically any noticeable difference in the two forms. Both forms of hypertrophic pulpitis differ only in their size and agree perfectly in their histologic structure. The fleshy round bean or hazelnut-sized pulp hypertrophy develops simply through its natural growth from the minute millet seed or pea-sized neoplasm. In both cases there is a degeneration of pulp tissue and transformation into a more or less coarse granulation tissue, which consists of connective tissue fibers with numerous blood vessels, round cells and proliferated endothelium and connective tissue cells.

The striking point in all the specimens is the richness of blood supply. The vessels are not only numerous but also dilated, almost like a hemangioma, so that after extraction of the tooth the hypertrophy loses half its volume.

In almost all cases of pulp hypertrophy there is found to some extent the formation of partly attached, partly free, pulp stones and calcareous deposits. This is in itself not astonishing, since in nearly all teeth which suffer from any kind of pulpitis calcic formations are present to the discomfiture of the investigator, and even in well-decalcified preparations they often cause inconvenient nicking of the microtome knife. But what is here remarkable is the fact that in many hypertrophied pulps such calcareous formations occur well above the

---

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

1. Compare Scheff's Handbuch, vol. xii, p. 297.

pulp chamber and the hypertrophy itself. These calcareous masses or pulp stones are in part round or oval with distinct stratifications and partly irregularly dentated, and show cell inclusions similar to those which are found in the formation of secondary dentin inside the pulp chamber.

How can these things be explained? I believe the pulp hypertrophy only occurs in teeth the pulp elements of which possess great vital energy and capacity for regeneration and in which they can oppose special resistance against incoming bacteria and other morbid influences. If in such teeth from caries the pulp loses its defense (its secondary dentin cover) it is still able to defend itself by forming on its surface granulation tissue in thicker and thicker layers which will have to be called pulp hypertrophy. Even after fracture of the tooth by unfortunate attempts at extraction such pulp hypertrophies can develop, although in such case the pulp is certainly laid bare to a larger extent.

The formation of secondary dentin partly attached to the walls and partly free is to be considered an attempt at defense from external injury. The quicker the pulp is compelled to form secondary dentin the more irregular will be its formation, so the calcification does not follow regular rules and the dentin is not laid down in regular layers, but the pulp cells are included in rapidly-formed irregular dentin structure. Such pulp cells, so over-energetic in dentin formation, may here and there extend with the granulation tissue beyond the pulp chamber itself, and thus far away from their original site form on the crown of the hypertrophy such pulp stones as are shown in some of my specimens.

Some things shown appear at first rather difficult to explain. Thus in one case the surface is covered with regular stratified pavement epithelium instead of the usual round cells and pus corpuscles, also with the high papillæ which are typical of the gum tissue. How does this epithelium develop on the pulp? Usually the excised fragment of a pulp hypertrophy is readily distinguished from a corresponding fragment of an alveolar growth by the absence of epithelium. I explain the process as follows: Hypertrophied pulps are frequently ingrafted with alveolar growths, that is, when a pulp hypertrophy extends outside a pulp chamber over the corroded wall of the crown in contact with the gum tissue. Both are easily injured in chewing so that spontaneous autotransplantation from the gum tissue to the pulp hypertrophy occurs. Six months after preparing the one specimen I found another which demonstrated conclusively the truth of this conjecture. I have seen gum tissue grown over the completely destroyed crown of the tooth of which one was united with the broad surface of the pulp hypertrophy in the pulp chamber. The whole surface of this hypertrophy was already covered with epithelium of the same composition and height of papillæ as that possessed by the alveolar tissue. Later I had the opportunity to separate the gum overgrowth from the pulp and there remained then only the pulp hypertrophy covered with epithelium.

In conclusion, a few words on the therapy of pulp hypertrophies: In cases where the pulp has one of these growths (they are vascular and at the same time poorly innervated) they may be either simply amputated with a pair of fine scissors or pointed knife in the depth of the pulp chamber and then arsenic paste applied to cause necrosis of the root pulp, or the arsenic paste can be applied direct to the crown of the hypertrophy in order to destroy by necrosis the entire tissue. But there is no serious error, in my opinion, in avoiding the use of arsenic altogether, but simply cut off the top of the hypertrophy and cap the stump, or in very small hypertrophies after a thorough cleansing cap the hypertrophy as a whole and over this insert a filling or crown. The possibility of decomposition of the capped hypertrophy might be excluded since the tissue has already been shown to possess remarkable resistance.

THE CONTROL OF PROSTITUTION AND THE PREVENTION OF THE SPREAD OF VENEREAL DISEASES.*

M. L. HEIDINGSFELD, PH.B., M.D.
Clinical Lecturer on Dermatology and Venereal Diseases, Miami Medical Colege, Cincinnati.
CINCINNATI.

This paper is presented under this double caption because venereal disease and prostitution are inseparable terms, and because the control of prostitution is engrossing the attention of most of the large and many of the smaller communities, solely for the avowed purpose of preventing the spread of venereal diseases. By far the more important of the two questions is that which refers to the prevention of the spread of venereal diseases; whatever preventative measures have thus far been instituted have been largely ineffective in character and have been directed against the chief source of infection, prostitution, with a view of either effecting its suppression or control. History is full of attempts of such manifold nature and character as to conclusively demonstrate that suppression is impossible and control impractical and at best of very doubtful value. I need only refer to a few well-known examples to convince the most skeptical that suppression of prostitution is not feasible. The stern and severe regulations of Maria Theresa, at Vienna, and the popes at Rome, were promptly followed by husbands prostituting their wives, parents their children, and by a rapid and alarming increase of venereal diseases. The history of the city of Bonn conclusively demonstrates that, however severe the measures for the suppression of prostitution may be in character, even to the degree of the infliction of the death penalty on the transgressors, they foster not only rapine, seduction, bastardy and infanticide, but an undue prevalence of venereal disease in its most aggravated form. Yet "prostitution must be regarded as the fountain-head from which venereal diseases originate, and forms the main source of the unbroken vitiated stream of poison, which inoculates the living and contaminates the unborn."[1]

Hardly less unfavorable are the measures which, from time to time, have been and continue to be instituted, in most of the larger communities in this and many foreign countries, not for the suppression, but for the control of prostitution. Although measures for its control have been prepared with the greatest care and wisdom, and have been rigidly enforced with the most conscientious and painstaking effort, it is exceedingly questionable, even in the most favored instances, if the resulting good is ever commensurate with the effected harm.

The most efficient and most carefully exercised control, regulating the proper registration of all known prostitutes, their subjection to police surveillance, submission to careful periodic examination, and compulsory hospital treatment when diseased, even though it could

* Read before the Ohio State Medical Society, at Dayton, 1903.
1. Weiss: THE JOURNAL A. M. A., Jan. 24, 1903.

materially diminish the danger of contagion from this particular class, would remain practically ineffective, because it would utterly fail to cope with that larger and more dangerous element, the clandestine prostitutes, who readily escape the most careful system of medical registration and examination and spread venereal disease without license or restraint. Control conditions, therefore, by reason of their irksome and burdensome character (restriction of personal liberty, infringement of private and constitutional rights), invariably augment the more dangerous class of clandestines, and drive those under control from their accustomed haunts and thereby defeat salutary segregation. So evident are the shortcomings of most of the control measures that some of the leading authorities on venereal diseases, both at home and abroad—I need only mention Neisser of Breslau and Blaschko[2] of Berlin (who have pursued with keen interest, under favored conditions, the work accomplished in this direction)—are exerting their powerful influence to oppose these measures because, from a personal disinterested and unselfish standpoint, regarding them as harmful, pernicious and inefficient. Valentine,[3] of New York, states that "the staunchest advocates of registration and periodic examination of prostitutes must admit that the dissemination of venereal diseases is thereby but feebly combated." In Paris, which has had a century of unsuccessful experience, the controlled prostitutes number only 4,700, and are rapidly diminishing in number, while the clandestines number conservatively 10,000, and are rapidly increasing. The brothels show the same proportionate decrease, and now scarcely aggregate 60, where formerly they numbered hundreds.

During the past three years, Cincinnati has had another regime of prostitution control by the board of health, entailing regular registration, periodic examination, police surveillance, compulsory hospital treatment or a work-house sentence. Although these regulative measures have been carefully thought out and most rigidly enforced, I have personally failed, from an unselfish and disinterested standpoint, to note that our city has been materially benefited by these measures; on the contrary I can not but question whether they have not on occasions been conducive to direct pernicious harm. If they have been formulated for the purpose of preventing the spread of venereal diseases, as recently affirmed by those directly interested, my personal experience, both as regards private and hospital practice leads me to sincerely believe that, even in this direction, it has proved to be a signal failure. Unfortunately, owing to some recent changes, my clinical records do not permit me to quote statistics, but I am secure in my belief that venereal disease among this class of patients is of as frequent occurrence and exists in as aggravated form as was the case prior to these preventative innovations. Moreover, by far the larger number of clinical venereal cases, and I dare say almost exclusively, trace their origin to the non-controlled clandestine prostitutes. As regards private practice, my records show that out of 606 dermatologic and venereal cases, which came under my personal observation in 1900, 84, or 12.2 per cent. were gonorrheal, and 51, or 8.4 per cent. were syphilitic infections. In 1901, out of a total of 833 cases, 105, or 12.6 per cent. were gonorrheal, and 82, or 9.8 per cent., were syphilitic. In 1902, out of a total of 1,133 cases, 165, or 14.6 per cent. were gonorrheal, and 75, or 6.6 per cent. were syphilitic. For the first five months of 1903 (from January 1 to May 20, inclusive), out of a total of 768 cases, 125, or 16.1 per cent. were gonorrheal, and 67, or 8.7 per cent., were syphilitic infections; or the same ratio estimated for the entire year, would make out of a total of 1,843 cases, 300 cases of gonorrhea and 161 cases of syphilis.

Dermatology and Venereal Diseases. Total Cases.	Cases of Gonorrhea.	Cases of Syphilis.
1900 606	84, or 12 2 per ct.	51, or 8 4 per ct.
1901 833	105, or 12 6 per ct.	82, or 9 8 per ct.
1902 1133	165, or 14 6 per ct.	75, or 6 6 per ct.
1903* 1843	300, or 16 1 per ct.	161, or 8 7 per ct.

*Estimated for the year, from the records of the first five months, Jan. 1 to May 20, 1903.

From the foregoing table it can be readily seen that for the past four years, during which time a system of prostitution control has been inaugurated and carefully and systematically conducted in all of its details, the cases of gonorrhea in my private practice have steadily increased from 84 to 300 per year in number, or from 12.2 per cent. to 16.1 per cent. of the entire number of dermatologic cases, and the cases of syphilis, with slight variations, from 51 to 161 per year, and from 8.4 per cent. to 8.7 per cent. of all cases. The control, therefore, as at present exercised, is neither able to prevent a material increase in the total number of venereal cases, nor, what is more significant, to prevent proportionate increase in the per cent. over other forms of dermatologic disease.

I am frank to acknowledge that these figures, derived as they are from a strictly private practice, bear to themselves a sort of personal equation. They have been collated from records, gathered without reference to this particular phase of the question, in collaboration with Dr. Clarence A. Ihle. The number is sufficiently large to carry some weight and I am of the opinion that they represent a fair average of the prevalence of venereal diseases in private practice, under existing circumstances, in special reference to their increase or decrease. I am strengthened in this opinion by the impressions of some of my confrères, men who enjoy considerable venereal practice, who have personally stated to me that the results of a survey of their records do not materially differ from mine. The increase in number and percentage of venereal cases in my own practice is significant, when we take into account that, during the past four years, four cases out of five are dermatologic, that dermatology is my specialty, and that venereal diseases have been treated as a side specialty, for the most part as an integral and almost inseparable part of dermatology. In order to determine with greater accuracy and precision to what degree the spread of venereal diseases was prevented by the present system of control, the source of infection has been carefully traced in each individual case, as accurately as possible, for the past six or seven months, and recorded. If the control is as effective as its most ardent supporters would have us believe, relatively few cases could be traced to the individuals who are under the ban of medical registration and examination. My results showed that not relatively few, but on the contrary, a surprisingly large number could be traced to control prostitutes, 30 for the months of November and December, 1902, against 38 contracted from Cincinnati and its neighboring clandestines, and 7 from foreign sources. My records from Jan. 1 to May 20, 1903, are equally significant and, according to the following table, show 57 infections from control prostitutes against 69 of clandestine nature.

2. Blaschko: Hygiene of Prostitution u. Venerischen, K., 1900.
3. Valentine: N. Y. Med Record, Nov. 8, 1902.

Table, Jan. 1 to May 20, 1903.

Source of Infection.	Gonorrhea.	Syphilis.	Ulcus Molle.	Condyloma Acuminata.	Total.
Cincinnati clandestines. .	49	19	. . . .	1	69
" exam. prostitutes	43	8	4	2	57
Foreign sources.	10	10	2	. . . . .	22
Innocent infections.	1	8	. . . .	. . . . .	9
Record unobtainable. . . .	22	22	. . . .	. . . . .	44
Total	125	67	6	3	201

Total of all dermatologic and venereal cases, 768.

From the foregoing it can be readily inferred that the control, as at present exercised, is not a very effective one, that most of the cases are contracted, even in private practice, outside its pale, and that the regimen exercised over control prostitutes, however rigid or carefully carried out, does not render them non-infectious in character.

If the system was simply ineffectual and powerless to show positive results I, for one, would not endeavor to criticise it unfavorably or invoke its just condemnation. Sincere as is my belief, from a thoroughly disinterested and unselfish standpoint, that it is powerless and impotent to materially prevent the spread of venereal diseases, I am doubly assured that its influences in other directions are decidedly pernicious and that it effects material harm.

Control with periodic examination gives to the laity a false sense of security. There is no more powerful conservator of social purity, I believe, than the fear of impending danger to the transgressor, the fear of contracting a venereal disease; this fear is materially minimized by the assurance of the periodic examinations made for the purpose of determining the abscence of infectious diseases. This assurance is increased in Cincinnati by the issuance of a diploma-like certificate, which "must be exhibited conspicuously in the room occupied by the person to whom it is issued." Though clearly evident that this practice is alluring and attractive to the inexperienced and uninitiated, it suffices to state that it is an experience common to many practitioners, to meet infected patients who, under the guise of this false security, have indulged in an intercourse from which they otherwise would have abstained, or in which they would have otherwise used measures to prevent infection. That the issuance of these certificates is pure deception and fraud, is evident from the innumerable infections which can be traced to the possessors, 87 cases occurring in my own practice in seven months' time.

It is generally conceded by most authorities, Blaschko,[4] Jadassohn, Neisser and others, that one-half to one-third of the prostitutes, even in control cities, are constantly infected with gonorrhea, and that at least 80 per cent. of them are infected with syphilis during their first year in that life. Havas[5] states that after the gonococcus has passed the cervix and reaches the adnexa, the disease is incurable and the prostitute becomes a source of constant infection. In the light of these facts, it is certainly farcical, I may dare say criminal, to grant this highly contagious class of individuals a certificate, with the injunction that it be prominently displayed, reading that "We have made careful examination of said —— and find her free from any venereal or contagious disease."

If these certificates were issued only to prostitutes living in public houses or alone, and more or less clandestinely pursuing their calling, though seemingly uncalled for and unjustified by clinical experience, it would be more pardonable than the much graver offense of granting them to masseuses, manicure artists, etc., who, under the guise of an affected calling, are licensed to practice prostitution without fear or restraint, and under the cloak of this deception to advertise it in the daily press and thereby virtually place an additional premium on vice. A large quota of recent infections, in my practice, have been contracted in a certain massage and manicuring establishment, whose advertisement appears almost daily and whose inmates are regularly examined and are given their certificates, and this control, in Cincinnati, we are assured is practiced solely for the purpose of preventing the spread of venereal diseases.

But the sacrifice of the many unsuspecting and falsely assured innocents on the alluring altar of venereal disease is not the only harm that can be attributed to control. The power which it exercises over these unfortunates becomes almost absolute, and one from which there can be no appeal. It can and often does usurp constitutional rights, restrict liberty, infringe personal privileges, make hospital treatment compulsory, or even impose a work-house sentence. These conditions not only pave the way for an uncalled-for interference, and create opportunities for blackmail and personal gain, but, by rendering the position unduly hard, tend to materially diminish the number of controls and to increase the more numerous and more dangerous clandestines. The fear of the penalties which may be imposed, compulsory hospital treatment, etc., often impels these individuals to conceal from their examiner the various forms of venereal lesions (mucous placques, condylomata lata, gonorrhea, etc.), to which, if his work is at all effective, his attention should be particularly directed. Formerly they took an interest in bringing these lesions to the attention of their private physician, but of late the fear that this knowledge may reach the ears of the examiner and incur his displeasure, removes them also from this attention.

There can be no question but that exercise of power occasionally has been very much abused in Cincinnati. An example was the suicide of a beautiful young girl of respected parentage who died within the past year at the City Hospital because she had been threatened with arrest and prosecution at the hands of an influential citizen whose displeasure she had unfortunately incurred. A striking example, illustrating to what excesses such an elastic system of blackmail can be carried, occurred in my presence in one of the control wards of the City Hospital. One of the unfortunates who had apparently served out her full quota of time and imagined that she was sufficiently free from her ailments to merit her just release, addressed the controlling staff officer by asking, "Say, you, when are you going to let me out?" I am sure that the unfortunate one never intended the remark to be uncivil or disrespectful, but the autocratic staff officer, who, incidentally, is one of the most active participants and ardent advocates of prostitution control, replied: "What, you say 'you' to me; I'll teach you better; you will stay four weeks for that." The Czar of Russia could not have exercised over his own subjects more absolute or arbitrary control, and her injured feelings, restricted liberty and infringed rights took vent in a flood of tears. Instances of this character could be multiplied almost indefinitely. Individuals belonging to this class are almost daily subjected to the indignities of arrest and persecution, on the illegal charge of loitering, and if not illegally confined in

4. Blaschko: Berlin klin. woch., 1892, 5.
5. Havas: Monatsh. f. Prak. Derm., xxxiii, p. 144.

a hospital or prison, suffer infringement of private rights and restrictions of personal liberty. It frequently happens that these individuals, when illegally confined, will buy their personal freedom and liberty at the price of a marriage compact, which is the equivalent of making a hollow mockery of one of the most solemn, holy and impressive ceremonies of our higher, enlightened civilization.

We will credit the officers who exercise the present prerogatives of control in Cincinnati with being honorable, conscientious and upright, although somewhat blind in their supreme faith in their personal efforts. The facilities for exercising an unfair interference and for secretly extorting blackmail in return for protection are so pronounced that, if perchance control were exercised by officers who were unscrupulous or dishonest, they could rapidly and successfully inaugurate a foul and degraded system of corruption. I am informed that these individuals, even under the present system, are in such moral dread of an unfair discrimination or an unjust interference, that they seek medical attention only from the regular examining physicians, and are timid in seeking attention elsewhere, however desirable in character, for fear that such information may reach the ears of the examiner and incur his displeasure. This influence is decidedly pernicious, because any measure which tends to discourage medical attention only tends to promote the spread of venereal diseases. This same moral fear of the examiner and the compulsory treatment he is able to impose also prompts these individuals to discourage every form of medical attention and to hide any knowledge which would lead to the discovery of any form of venereal infection, to lavage freely immediately prior to each examination and to conceal venereal lesions of every infectious form. As long as the prostitute looks on the examiner, not as a physician and benefactor, but as her persecutor and prosecutor, so long will any measure for the exercise of a successful control and prevention of the spread of venereal diseases defeat the very object it seeks to attain. Medical service to this class of patients should be freely given and should be the very best that can be given; it should not be imposed combined with compulsory hospital treatment at $1 per day. In order that these unfortunates should be encouraged to freely seek proper attention it should be given with all the privacy and refined and delicate detail that is awarded to the treatment of these cases in careful private practice, not by officials wearing the badge of supreme authority, but by those having nothing else to recommend them except their painstaking, conscientious efforts and their personal attainments, as able, successful and efficient physicians.

The present Cincinnati health officer and official head of the prostitution control stated recently that the 500 regularly weekly examined prostitutes constituted three-fourths of the source of infection of venereal disease. I do not know the source of his information, but personal knowledge of the self-supporting industrial female life in Cincinnati, of the large number of dependent females employed in our numerous factories, of the unhealthful moral atmosphere in which they work and live, of the close association of the sexes in the work-room, of their love for luxury and personal extravagance, not commensurate with their usually moderate income, leads me to believe that the clandestines number at least 10,000 and, granting that the control prostitutes average five or even ten callers a day, that they by no means constitute the greater source of infection. The fact that sixty-nine cases of venereal disease were contracted in five months from Cincinnati clandestines, against fifty-seven from control sources, in a private practice, speaks for itself, that the greater source of infection is from the clandestines, especially when we consider that these infections occurred for the most part among a well-to-do class who can easily afford the relative greater expense incurred in control indulgence. In the more numerous indigent, and for the most part laboring class of individuals, the proportion of the clandestine infections greatly predominate, and in clinical practice it is almost the exclusive form of infection.

We have now considered the inefficacy of the present control, its harmful and pernicious influences and the dangers which may attend its unscrupulous administration; we will now consider briefly a few additional measures, which, if properly conceived and consistently carried out would, I believe, innure to the prevention of the spread of venereal diseases. First and foremost is, I believe, a thorough education of our youth—which should become an integral part of their general schooling and training—as to the dangers that attend improper relations; that continence and abstinence are strictly compatible with the best of health and well-being; that in case they should feel unable to properly restrain their inordinate passions—and I state this with some reservation as applying particularly to those individuals and practitioners who believe that inordinate passions must be sexually gratified and whose watch-word rests in the unsuppressible and uncontrollable character of prostitution—indulgence should be sought only from proper sources, in which event they should be given the best form of instruction in regard to self-protection.

When we consider the numerous causes which predispose to prostitution, one of the most potent factors, not even second to the assurance of freedom from the danger of contracting venereal disease, is a sense of security against subsequent conception and parturition and the resulting publicity and social disgrace. This feature is so alarmingly prevalent in Cincinnati that a wholesome fear in this direction no longer exists, and a great incentive is thereby given countless individuals to take the initial step that invariably leads to remorse and despair and often to degradation, disease, abject misery and an early death. Abortion is practiced with such license and freedom that there are men who have gained, among the masses, special reputations in this field of work, so that their names, in this connection, are almost household words. Some of them occupy prominent offices in our high-class office buildings, and it is not an uncommon experience to find patients astray in the wrong office inquiring for "the doctor in the building who does that kind of work." I am sure that if the health department had exercised one-fourth the effort expended in controlling prostitution in correcting this flagrant and nefarious malfeasance, it would have rendered a ten times more grateful and actual service, and at the same time would have exercised a more genuine control, that would have in due course of time prevented in greater measure the spread of venereal diseases.

There are a number of more legitimate and far more productive fields for the exercise of measures for the prevention of the spread of venereal diseases than the exercise of a doubtful and oppressive control over prostitution. Aside from the proper education of our youth, the instruction in individual prophylaxis, and a control over licentious abortion, regulative measures should be adopted, inquiring into the self-supporting character of

female industrial life, the close association of the sexes in the work-room, the immoral atmosphere in which they work and live, remuneration commensurate to a degree with proper living and being, enactment of legislation for the salutory segregation of public and clandestine prostitutes, and its enforcement within bounds of propriety, justice and reason. It should abolish common drinking cups and utensils and promote education along the lines of phophylaxis in regard to the dangerously unclean dental, manicure, chiropodist and surgical instruments, and the prolonged infectious character of venereal diseases.

Time and space do not permit me to give to these and many other measures (for example, the establishment of homes for the tempted and fallen), the attention they justly deserve, inasmuch as they are somewhat foreign to the subject of the control of prostitution in reference to the spread of venereal diseases, they scarcely merit special consideration in this paper.

A few quotations, recently gleaned from some of our leading specialists, relative to the subject will not, I trust, be out of place at this juncture. Stelwagon[6] of Philadelphia states: "We will never make headway in the control of venereal diseases by legalizing prostitution or recognizing it as a legitimate calling." Gottheil[6] of New York says: "Municipal regulation, as practiced in many of the European cities, is neither successful or desirable." E. L. Cocks[6] of New York says: "A streak of over-conscientiousness and trying to do something—and the result has been that prostitution, which was confined to the tenderloin, has been scattered all over the city. Under the new order of things, prostitutes are now our neighbors."

To briefly recapitulate, suppression of prostitution is impossible, and control is impractical; it is absolutely incapable of coping with the larger and more dangerous class of clandestines, and it is powerless and impotent to materially prevent the spread of venereal diseases, emanating from those directly under control. Its influences are decidedly pernicious and harmful, inasmuch as it defeats salutary segregation, increases the more dangerous class of clandestines, restricts liberty and infringes on personal and constitutional rights. It legalizes crime and fosters disease and immorality by imparting a false sense of security, and is virtually a deception and a snare. It creates opportunities for blackmail and personal gain, brooks an unjust and often unendurable interference, and discourages necessary and salutary medical attention. There are far more rational and legitimate measures for the prevention of the spread of venereal diseases, along the lines of the suppression of abortionists and the inculcation of general and individual education and prophylaxis.

Clinical Reports.

A CASE OF ANGINA AND DYSPHAGIA,

ILLUSTRATING THE VALUE OF ANTISYPHILITIC TREATMENT IN A CONDITION MISTAKEN FOR EPITHELIOMA.*

FRANK WOODBURY, M.D.

Formerly Adjunct Professor of Laryngology in the Philadelphia Polyclinic and School for Graduates.

PHILADELPHIA.

History.—Mrs. X., a widow, about 35 years of age. Her husband died of pulmonary tuberculosis about 18 months before I saw her. She nursed him during his illness, and in consequence of much loss of rest, and of the great physical and mental strain, her health had been much impaired. In the year following, however, she had apparently regained her health and strength. She was a brunette, well nourished, and physically well developed, of a bilious temperament and of active habits. The account of her ailment, for which she sought the advice of the late Dr. Thomas G. Morton, was that for the last six months she had experienced great pain in swallowing, even on the attempt to drink a little milk or water. Otherwise her health had been good. She thought that she had lost a few pounds in weight, which she attributed to her inability to take nourishment. She located the pain principally on the right side of the throat, in the pharynx. There had been no change sufficiently marked for her to notice it for several months, except that the pain had become more severe. She had been under medical treatment for the preceding six months, without relief, and her physician had referred her to Dr. Morton for surgical treatment, stating that she had epithelioma of the throat. She was willing to submit to an operation if necessary.

Examination.—At Dr. Morton's request, I examined the patient at his office and saw her there several times subsequently. On inspection, I found an area of passive hyperemia involving the right tonsillar region, the anterior and posterior pillars of the pharynx, and extending a little on to the soft palate; the tissues were slightly swollen, but the surface was clean and not ulcerated. The appearance was that of an ordinary crescent inflammation, except that the color was a deeper red, and the tonsil itself was not enlarged. On digital examination I did not detect abnormal hardness. The touch of my finger caused a paroxysm of agonizing pain, lasting several minutes. There was some tenderness externally, under the angle of the jaw, but no glandular involvement could be detected. The postcervical and epitrochlear glands and those on the mastoid eminences showed no marked evidence of disease; although a few could be felt and moved under the examining finger, they were not hard, tender, nor much increased in size.

Diagnosis.—Three possibilities suggested themselves, viz.: epithelioma, tuberculosis, and syphilis. From the absence of glandular involvement, we might also include sarcoma, but it did not seem possible that in six months' time such a tumor could have made so little progress and the general health have suffered so little impairment. The diagnosis of epithelioma, which she had brought with her, demanded more deliberate consideration. It had been made by a physician who had studied the case for months. The long duration and comparatively slight development of the lesion would exclude epithelioma, were it not for the fact that the malignancy might have been a comparatively recent development, possibly as the result of too vigorous treatment with caustics or irritants. Opposed to the view of cancer was the appearance of the lesion, the absence of infiltration, and particularly the apparently normal condition of the submaxillary lymphatic glands. Moreover, there was no appearance of cachexia whatever.

In favor of tuberculosis of the throat were: 1, The history of nursing a husband who had died of phthisis; 2, the chronic nature of the lesion, which had refused to heal under medical treatment; 3, the age of the patient and her bereaved condition. Opposed to this diagnosis were the facts that: 1. The lesion was not ulcerated; 2, the lungs were normal, and, 3, there was no evidence of constitutional symptoms, although the disease had existed for so long a time.

We were driven to the hypothesis of syphilis, although the evidence in its favor was of the most intangible character. To the usual queries as to history of eruption on the skin, bone pains, loss of hair, sores in the mouth or elsewhere, negative replies were given. The circumstances did not admit of a close examination for the stigmata of syphilis—apart from the condition of the lymphatics of the neck and arms, which was not at all conclusive. Taking into consideration her appearance of general good health, her social condition, and the clinical maxim that "no condition in life absolutely

6. THE JOURNAL A. M. A., Jan. 24, 1903.

* Read before the Section on Otology and Laryngology, College of Physicians, Philadelphia, 1903.

excludes the possibility of syphilis," we decided to proceed to the test of a therapeutic diagnosis, as but little time would be lost in case it should prove to be malignant, and the treatment would afford some relief to the symptoms, in either event. Whether the lesion might be primary, secondary, or tertiary, could not be decided positively in the entire absence of any history of infection. But the absence of enlarged glands under the jaw, and the extreme painfulness of the lesion, were in favor of a late manifestation. There were no constitutional symptoms, skin eruption or mucous patches in the mouth, as we might expect in the secondary stage, so we concluded that the lesion was probably gummatous, although its color, and the fact that it had not ulcerated, could not be reconciled very closely with this view.

Treatment.—The line of treatment decided on was as follows:

℞.	Hydrargyri iodidi flavi .....gr. 1/3	|02
	Ext. gentianæ .....gr. ii	|12
	Ext. hyoscyami .....gr. 1/4	|015

M. et ft. pill No. i, gelatin coated. Sig.: Take one pill three times daily after meals.

She was also given the following:

℞.	Potassii chloratis 3ii	8	|
	Ext. rhois glabræ 3vi	24	|
	Glycerini .....ʒss	15	|
	Aq. rosæ q. s. ad.....ʒvi	180	|

M. Sig.: Dilute with two parts hot water and use frequently as a mouth wash and gargle.

To relieve the extreme hyperesthesia of the throat, she was given ten-grain doses of potassium bromid, three or four times a day for a few days. She was directed to eat four eggs a day and to drink two quarts of milk, in addition to broth, breakfast cocoa and *café au lait*. The local treatment consisted in the application of a forty-grain solution of nitrate of silver to the affected area, about once a week.

Results.—Three days after the first consultation, she presented herself and reported very great improvement. Her throat looked better and the pain on swallowing liquids was almost gone. In the course of five weeks she had entirely recovered. As a matter of precaution, she was advised to continue a mixed treatment for several months longer, with occasional intermissions of a week. As she has not returned for further treatment, I conclude that she is still enjoying excellent health.

Comments.—Cases of syphilis of the throat are sufficiently common to be allowed to pass without comment; the only points deserving of notice in the present case are the long duration without ulceration, the extreme dysphagia, and the very prompt response to the treatment pursued. It is also an illustration of the diminishing value of a history of the primary infection with syphilis, in making up the diagnosis. Cases of syphilis insontium are not rare, and, in view of the facility with which the virus may be communicated by kissing, by the use of public drinking cups, by unclean dental instruments, etc., it is a matter of wonder that they are not vastly more common than they are.

218 South Sixteenth Street.

STRYCHNIN POISONING BY INHALATION.

MINERVA M. NEWBECKER, M.D.
ORD, NEB.

History.—May 31, 1903, I received a hurried call to visit a man in the country who had been poisoned by strychnin. I found the patient wrapped in comforters, and propped up in an easy chair. He appeared to be well nourished, was 30 years old, and had never been sick a day in his life. He was very nervous and greatly prostrated. His heart was beating at about 88 per minute and very irregularly, and had a decided tremor. His tongue was coated and trembling, and somewhat moist; his eyes were suffused and the conjunctivæ injected; the muscles about the mouth were retracted, showing his teeth and giving to his face the "risus sardonicus."

Etiology.—I was given the following history: Two days previously he was preparing a mixture to poison rats. It consisted of some corn, mixed with strychnin powder, over which he poured hot water, stirring it thoroughly with a stick. The water was not boiling, but was hot enough to rise in steam; this he inhaled while bending over the mixture. While he was working thus he had a feeling of chilliness, and a numbness crept over him, followed or accompanied by a tingling in his hands, which soon extended all over his body. Then he felt muscular twitchings and jerkings resembling spasms, and lightning flashes which began with his hands and extended up his arms to his face and spine, and finally involved the whole body. There was no opisthotonous or loss of consciousness, but an intense anxiety and fear of impending death. The jaws felt stiff, the secretions were arrested, the tongue was dry and cracked, and the urine suppressed. The severity of the attack lasted about an hour.

Treatment.—Various remedies were administered by his friends. They tried to cause emesis with warm water and mustard, but failed; then they gave him cathartics, and finally resorted to melted lard. He soon experienced relief, and took the lard with avidity, continuing to do so at intervals all night. He slept none, but felt better in the morning. The bowels moved freely from the cathartic, and the flow of urine was copious. During the forenoon he had another attack, but milder than the first, and still another in the afternoon. The lard treatment was resumed, and again gave relief. He slept none the second night, and kept the lard can beside his bed, eating it cold when he felt the numbness coming on, which occurred once or twice during the night. About noon he found himself growing worse, and sent for a physician. As I found him weak and trembling, with the temporal arteries hard and prominent, and still suffering from too great arterial tension, I gave him five or six drops of Norwood's tincture of veratrum viride, and he soon became easier. I left some potassium bromid and chloral, to be given at night and whenever he felt the spasms coming on; also antispasmodics and stimulants to be given during the intervals, and castor oil to take the place of the lard, and recommended that he be kept quiet in bed and allowed to sleep.

Course.—Three days later, being called again, I found him sitting up, evidently much improved. He was having a slight spasm once a day. Some hours before these spasms would begin he was unable to urinate, a few drops only passing away at a time; but when the spasm was over he passed about two quarts at one time. He had no desire to urinate until after the attack. He had no feeling in the genito-urinary organs; they seemed to be involved in the general anesthesia. He sweated profusely in the intervals of relaxation, and to further stimulate the skin and assist elimination I recommended a warm sponge bath to be given at night, and attention to the excretions of kidneys and bowels. I prescribed enough bromid and chloral to insure good rest, to be withdrawn as the nervousness and insomnia passed away. Beside this, a general tonic was given. Some two weeks later the patient called at the office. He was still nervous, and occasionally felt slight jerkings and twitchings, but had no pronounced spasms and was slowly regaining his strength. To my question as to whether he might not have conveyed some of the powder to his mouth by his hands, he answered in the negative; he was sure no powder adhered to his hands.

Comments.—This case was interesting to me, as the liability to strychnin poisoning by inhalation had never been brought to my attention, and I do not find the subject treated of in any books at my command, though, from the extreme solubility of the drug, such liability may be a well-known fact. While the alkaloid, strychnin, is difficultly soluble, the sulphate, presumably the salt used, is very soluble, being 1 part to 10. The vapor, carrying in solution a small amount of the salt, comes in contact with the moist surface of the mucous membrane of the nose and mouth, is readily absorbed and carried into the circulation, some of it, no doubt, being swallowed, and entering the portal circulation from the stomach. Strychnin is rapidly absorbed into the system, and very slowly excreted, most by the kidneys, then by the mucous and cutaneous surfaces. This emphasizes

one point to be observed in the treatment: that is to draw off the urine to prevent accumulation in the bladder, which admits of reabsorption of the poison held in solution, and its return to the circulation, thus exerting its deleterious influences on the system again and again. Strychnin, like digitalin, diminishes the secretion of urine by causing powerful contraction of the renal vessels, and a large dose may completely arrest its secretion, and probably also the circulation through the kidneys. There was a question in my mind, however, whether the urine in this case was really suppressed, or whether the bladder was full to overflowing, and a little dribbled away, from lack of sensation. Patient claimed that he had no feeling in those organs, before and during the spasms, but as soon as they were over, leaving him in a relaxed and weakened condition, the urine flowed freely, and was passed in large quantities.

I should be glad to learn whether this means of strychnin poisoning has been observed. It seems improbable to me that a sufficient amount of the poison could have been swallowed from the secretions of nose and mouth to cause such serious symptoms.

A CASE OF DIPHTHERIA AT SEVENTY-SIX YEARS OF AGE.

A. BELCHAM KEYES, M.D.
Professor of Gynecology, Chicago Polyclinic; Instructor in Rush Medical College.
CHICAGO.

History.—Some time ago I was called to see P. D., aged 76, who complained of a slight indisposition and of having had on the previous day a slight stiffness of the neck, from which he had recovered before my visit.

Examination.—The pulse was 82 and temperature 99 F., condition of vascular system somewhat arteriosclerotic, heart, lungs and urine negative. On the right leg was a varicose ulcer about the size of a silver dollar.

I examined the throat in a routine way, and found on the left anterior pillar a small, oval-shaped, whitish-gray patch about half the diameter of a dime, and laughingly remarked that the patient was getting the children's diseases over again, and promised to return later and make a culture before prescribing any antiseptic gargle or spray so as not to interfere with the growth on the culture media.

Diagnosis.—Two hours later I inoculated two of our small health department culture boxes from the patch and in due course stained and examined, finding a pure culture of Klebs-Loeffler bacilli.

Treatment.—The culture was submitted to Drs. Adolph Gehrmann and R. B. Preble, with a request to the latter to inject antitoxin, 2,000 units being injected without apparent baneful influence on the system in any way. At the same time a three-year-old grandson who had arrived at the house that day on a visit was injected with 1,000 units. Beside isolation, I prescribed antiseptic gargles, both as a curative and a prophylactic measure, to lessen the chance of the spreading of the disease among the rest of the family.

Course.—The case apparently ran its course absolutely without symptoms, the patient to this day refusing to believe the true nature of the disease, because at no time was there the slightest indisposition after the first day. A fresh culture four days after the first was forwarded to the health department and again a confirmatory diagnosis was made microscopically.

Comments.—The peculiar feature remarked on the senile atrophied mucosa was the absence of any sign of either a tendency to spread or to shedding of the pseudomembrane for about ten days, until I at last had it swabbed several times a day with tincture of iodin. Some time later the leg ulcer also healed almost entirely.

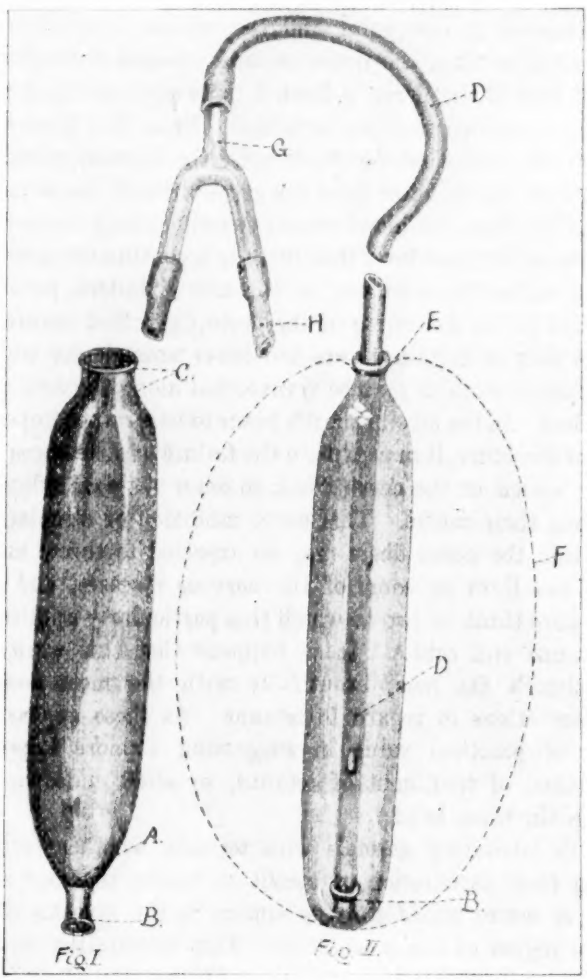
The patient is now in good health. The child did not contract the disease. I report the case because of the extreme age of the patient, and to show the necessity of making a culture in all cases of throat disease, no matter what the age of any suspected case of diphtheria may be, also to show the probability of its dissemination by adults of all ages in whom the disease may fail to cause symptoms.

New Instrument.

A NEW INTRAGASTRIC BAG.

J. RAWSON PENNINGTON, M.D.
CHICAGO.

The value of the intragastric bag in the treatment of many forms of stomach and intestinal diseases is no longer questioned. There are many bags on the market, but none of them is constructed so that a definite relation can be maintained between the distal end of the stomach tube and the bag. The consequence is that the free end of the tube frequently curls up and catches in the side of the bag, which is not only



disagreeable to the patient, but often ruptures the bag in withdrawing the tube from the stomach.

The bag shown in Figures 1 and 2 is made of extra fine rubber tissue, and is so constructed as to overcome these objections. To the distal end of the bag is vulcanized a small tube, AB, which fits snugly over the distal end of the stomach tube, D, and is made secure by a ligature. The bag is then pulled over the tube, D, and secured by another ligature, E. Both ends of the bag now being tied to the tube, they maintain a definite relation to the tube and to each other, whether the bag is empty or distended. G is a Y-shaped glass tube inserted into the tube D. Over the arms of this Y-shaped tube two rubber tubes, H, are fitted, acting as inlet and outlet tubes, with stopcock attachments, enabling one to use a single stomach tube for the same purpose that a double tube is used. The bag can be used with either the open or closed end, single or double stomach tube.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, JANUARY 30, 1904.

NERVE FIBERS AS PATHWAYS FOR TOXINS, AND THE TREATMENT OF TETANUS.

A short time ago we called attention to the significant experiments of Meltzer, who found that if a nerve is ligated in one point and the animal injected with methylene blue, the nerve becomes stained throughout, but that if the nerve is ligated in two places the intervening portion remains unstained. From this it may be inferred that whatever fluids enter the neurons, whether food or poison, enter from the extremities of the neurons and not from the blood vessels coursing along the nerve. It must be, therefore, that there is a continuous streaming within the substance of the axis cylinders, perhaps allied to the streaming of the protoplasm that occurs in the cells of certain plants and lower animals, by which means substances may be transported along the axis cylinders. As the myelin sheath seems to be a rather impervious structure, it may explain the failure of substances in the vessels of the nerve trunk to enter the axis cylinder along their course. This novel condition of circulation within the nerve fibers may be expected to throw more or less light on some of the nervous diseases, and we at once think of two to which this particularly applies—tetanus and rabies. It so happens that this work of Meltzer's fits most beautifully with the most recent observations in regard to tetanus. As these appear to be of practical value in suggesting a more hopeful method of treatment of tetanus, we shall endeavor to explain them briefly.

In laboratory animals with tetanus, whether resulting from inoculation of bacilli or toxins, the first and most severe manifestations appear in the muscles near the region of the inoculation. This localization is not usual in man, for, irrespective of the site of injury, the earliest effect is usually in the muscles of mastication, yet occasionally it happens that the spasms first develop in the injured part, as they do in animals, and still more often it may be noticed that the injured area is more affected than the rest of the body. Particularly to be mentioned is the "head tetanus" following wounds of the face and head, oftenest in the course of the fifth cranial nerve, which is followed only by local spasms, often limited to the injured side of the head. Because of this peculiarity, it has been thought that the nerves rather than the blood vessels were the carriers of the poison to the cord, thus explaining the localized results. Indeed, during a certain period in the history of the pathology of tetanus it was sought to treat tetanus by excising part of the nerve supplying the injured area, because the spasms were thought to be due to exaggerated reflexes resulting from irritation of the endings of the nerve.

Antedating Meltzer's publication, Meyer and Ransom[1] have obtained by careful experiments results that indicate what Meltzer proved, that the peripheral nerves may carry substances within their axis cylinders toward and into the spinal cord. According to their results, tetanus toxin reaches the ganglion cells of the cord solely by passing along the axis cylinder processes. None whatever reaches the ganglion cells through either the blood stream or the lymph stream. Apparently the point of entrance is in the terminals of the motor nerves, where they are devoid of the myelin sheath, and the sensory nerves seem entirely unable to carry toxins from the periphery to the center. Injection of tetanus toxin into the sensory roots caused only increased pain reflexes, but none of the characteristic muscle spasms. Furthermore, the poison seems to diffuse upward in the cord, for if the spinal cord of an animal inoculated in the hind leg was severed the tetanus was limited to the posterior portion of the body. It has always been considered rather remarkable that tetanus toxin required so long a period of incubation after injection, acting less like a ready-formed poison than like an infection; for this many explanatory theories have been advanced. Now it would seem that the greater part, if not all, of this incubation period is occupied by the passing of the poison from the periphery to the cord, for if the poison is injected directly into the cord in animals the symptoms appear at once, without the usual delay of hours or days.

In tetanus, therefore, it seems that the poison reaching the cord through the motor axones produces a hyperexcitability in their ganglion cells, so that they respond over-much to slight stimuli, such as are continually brought by the afferent fibers, and which, normally resulting in muscle tone, in this case cause tetanus. Within the cord the excessive poison is spread further until the cord is more or less completely affected, with consequent reflex hyperexcitability and its results. If the poison enters the blood stream it then reaches all motor endings in small quantities, and being by them transported to the cord results in generalized instability. When the tetanus is thus diffused in different animals, different anatomic regions are found to be most susceptible, and in man this seems to be the region of the fifth nerve.

The inefficiency of antitoxin in the curative treatment of tetanus seems to be due to its failure to follow the toxin along the nerve fibers, and hence it does not reach the toxin that is doing the harm. Toxin in the blood, lymph and tissues antitoxin can neutralize and thus lessen subsequent effects, but that which has en-

1. Arch. f. exper. Path. u. Pharm., 1903, xlix, 369.

tered the nerve it can not reach. For example, a rabbit very highly immunized against tetanus toxin so that two drops of its blood contained sufficient antitoxin to neutralize a certain toxic dose, was killed almost as if non-immune when this dose was introduced into the substance of a nerve. The therapeutic conclusion, therefore, is that antitoxin injected subcutaneously in the usual way can neutralize toxin that has not yet entered the nerves, and if administered in sufficient quantity before a fatal dose is absorbed it will prevent death. But if too large a quantity has entered the nerves no amount of antitoxin will check the disease. However, a possible way of reaching the toxin is suggested by these experiments, namely, to inject the antitoxin directly into a large nerve, preferably the one supplying the injured part. This has been done in one case with encouraging results. A man received a large dose of antitoxin after the development of a wound infection, in spite of which eight days later there developed a local, apparently progressive, tetanus. Antitoxin was then injected into the nerve trunk of the injured arm and the symptoms soon disappeared, complete recovery resulting. To be sure, one case of tetanus does not indicate very much, but at least we have offered another possible way of administering antitoxin that may be the long-sought one. There is no doubt that, with the great potential possibilities that lie in tetanus antitoxin, as shown by its very active neutralization of free toxin, there should be some way of getting better results than have been obtained so far. It is to be hoped that the intraneural route will be given the thorough trial it deserves in view of the futility of all other methods of administering antitoxin, except, perhaps, the intraspinal method advocated in this country by Luckett,[2] which is also in the experimental stage.

ALKAPTONURIA.

The characteristics of the urine in alkaptonuria, a condition first described by Boedeker in 1859, are briefly as follows: When voided it has a normal appearance, but rapidly acquires a deep-brown color and ultimately becomes black on exposure to the air. The brown color is greatly intensified by alkalies, its development being accompanied by the absorption of oxygen. The urine reduces Fehling's solution with the aid of heat, the mixture at first being of an inky-black color. It reduces ammoniacal silver-nitrate solutions in the cold. The bismuth test for sugar yields negative results. The urine does not ferment, and it is inactive to polarized rays. Ferric chlorid solution produces a transitory bluish-green color. Linen moistened with the urine turns a deep-brown color on exposure to the air.

The condition is congenital in the vast majority, if not all, of the cases. In a good many cases a history was obtained that the individual's urine in infancy stained the napkins a dark-brown color. Alkaptonuria persists throughout life. That it is rare is demonstrated by the fact that A. E. Garrod states that only 40 cases had been reported up to 1902. Four of these were reported from the United States. It predominates in males. Of the 40 cases, 29 were males and 11 females. The anomaly is likely to make its appearance in two or more brothers and sisters whose parents are normal, and among whose forefathers there is no record of its having occurred. There is only one recorded instance of alkaptonuria having been transmitted from an affected parent to a descendant. This was from a father to a son, and occurred in one of the American cases.

Although Boedeker gave the name "alkapton" to the substance producing the interesting urinary changes characterizing this anomaly, it remained for Baumann and Wolkow, in 1891, to demonstrate that they were due to the presence of homogentisic acid (Homogentisinsäure, $C_8H_8O_4$). This acid has been found in practically all the cases reported subsequent to that date and in the urine of some of the cases previously reported, and is now conceded by all observers to be the cause of the condition. Lead homogentisate is easily obtained by heating the urine nearly to the boiling point and adding five or six grams of neutral lead acetate to each 100 c.c. of urine and allowing it to cool for twenty-four hours. The lead salt crystallizes out in the form of brownish stellar-shaped acicular crystals, watery solutions of which give all the reactions of the original urine. Baumann, Wolkow and Embden believe that the homogentisic acid is derived from tyrosin. They have shown that when tyrosin is fed by mouth to an alkaptonuric nearly the whole of it is excreted as homogentisic acid, although the acid is not excreted in the urine when tyrosin is ingested by a healthy person. Beyond the fact that tyrosin and homogentisic acid are both aromatic acids, the two have nothing in common, and the conversion of the former into the latter involves a shifting of the hydroxyl groups on the benzene ring; in other words, a simultaneous oxidation and reduction within the molecule. Baumann and Wolkow believed that this conversion was due to bacterial activity in the intestinal canal, and suggested that there might be a specific bacterium in such cases. There is no definite experimental evidence to support this view.

A. E. Garrod, who has been much interested in the subject, has probably offered the true explanation of this curious anomaly. As a result of his investigation he finds that a very large percentage of the cases, concerning which he has been able to collect data, occurred in individuals who are the offspring of the marriage of first cousins who do not themselves manifest the peculiarity. He points out that in this respect it resembles albinism and possibly also cystinuria. He has advanced the view that alkaptonuria is a "sport" or alternative mode of metabolism, congenital in origin and persistent throughout life. In favor of this view is the fact that

[2] Medical News, April 18, 1903.

each individual excretes from day to day a very constant amount of the hemogentisic acid, the variations being within narrow limits and easily explained by fluctuations in the amount of proteid food taken from day to day. The average daily excretion of the acid has ranged between 2.6 grams in a child three and one-half years old and 5.9 grams in a young man of eighteen. One would reason, therefore, that alkaptonurics suffer from some inherited metabolic defect, and it seems probable that this defect is closely related to the metabolism of tyrosin.

SYPHILIS IN ANTHROPOIDS.

In a former number[1] we noted editorially the reported success of Metschnikoff in infecting the chimpanzee with syphilis. Recently Metschnikoff and Roux[2] have given a concise statement of their observations, which are most interesting and which may be of importance in furthering the study of syphilis.

The first chimpanzee, a female, was infected with "syphilitic virus." After twenty-five days a hard sore developed, which Fournier and others were willing to consider of syphilitic nature. A month later about fifteen papules appeared on various parts of the body, and remained until the death of the animal, which occurred fourteen weeks after the inoculation was made. A pneumococcus was cultivated from the heart's blood, and it is supposed this organism gained entrance through a gingivitis and caused death. Before the animal died, however, a second chimpanzee was inoculated on the penis from the now subsiding chancre of chimpanzee number one, and on the thigh with the fluid from a papule. Thirty-five days later an erosion, which grew into a rather large ulcer, appeared on the penis, as well as on the thigh of the second animal. The lesion had reddened and indurated borders, and the neighboring lymph glands were enlarged. Fournier's comment was that "the form of these lesions gave altogether the impression of a superficial chancre of the skin." The enlarged lymph glands persisted, the animal eventually developed a cough and snuffles and died forty-five days after the first symptoms appeared. Supposedly an influenza-like bacillus precipitated death.

The features of this work which suggest syphilis chiefly are the length of the incubation period, the character of the primary sores, and the secondary eruption preceded by the second incubation period, in the case of the first ape. The enlarged lymph glands are also of some significance. Metschnikoff and Roux appear to entertain no doubt that they have produced syphilis in these animals, which are so closely related to man. We must remember, however, that other investigators assert that they have produced primary and secondary syphilis in various animals with this or that organism, which had been cultivated from syphilitic lesions. We have already discussed[3] some of these investigations. The scientific world appears to have accepted none of these results so far. The names of Joseph and Piorkowski are now behind a bacillus which they are strenuously trying to establish as the cause of syphilis. Other competent observers claim that this organism is a constant habitant of the normal urethra. It would now be in order for Joseph and Piorkowski to inoculate a few chimpanzees with their bacillus, as men are not available for the purpose.

The work of Metschnikoff and Roux is significant, but these two experiments, naturally, can not be taken as conclusive. Further work is strongly indicated. The animals are, unfortunately, rare and expensive, difficult to obtain and stand captivity poorly, but they should be forthcoming for this work. Here is an opportunity for French philanthropy.

PURE MILK IN INFANT FEEDING.

The report[4] of the investigation that has been carried out by Drs. Park and Holt, under the auspices of the Rockefeller Institute for Medical Research, on the use of pure and impure milk among tenement children in New York City, is worthy of careful study. The outcome of the inquiry illustrates the extreme complexity of the conditions surrounding infant feeding and the importance of approaching the matter without preconceived opinions. In some respects the report may be held to emphasize an aspect of infant feeding that has not always been put to the fore in discussions. The importance of carrying out investigations of this character under actual tenement-house conditions rather than in institutions, or among the homes of the well-to-do, is shown by the remarkably concordant character of the results obtained through the co-operation of a considerable number of workers along clinical and bacteriologic lines.

Two or three features of the report stand out so conspicuously as to deserve special mention. The dangers from the use of raw milk in summer for infant feeding have been often insisted on, but they have rarely been so conclusively demonstrated. The milk used for the comparative tests was distinctly above the average as regards bacterial contamination, but in spite of this fact its employment in a raw condition was followed by illness in a large proportion of cases, while the same milk, when given after pasteurization, proved relatively wholesome. The facts presented on this head are so convincing that there seems no escape from the conclusion that the use of heated milk in summer, irrespective of the initial bacterial content, must be considered as by far the most important agent in diminishing infant morbidity and mortality. In the course of the investigation some difference was noticed between the amount of illness and mortality among children fed in hot weather with dif-

1. THE JOURNAL A. M. A., vol. xll, p. 971.
2. Deutsche med. Wochenschrift, 1903, No. 50, p. 943. Briefly abstracted in THE JOURNAL, Jan. 9, p. 135.
3. THE JOURNAL A. M. A., vol. xll, p. 261.
4. Medical News, Dec. 5, 1903, p. 1066.

ferent kinds of milk, i. e., cheap "store" milk, condensed milk, pure bottled milk and breast milk. As already stated, however, the influence of the degree of contamination of the milk was quite overshadowed by the effects of heating. "The effect of bacterial contamination was very marked when the milk was taken without previous heating, but, unless the contamination was very excessive, only slight when heating was employed shortly before feeding."

Other conclusions of considerable interest rather from the exact data by which they are buttressed than from their novelty, are that, during cool weather, the health of the infants observed was not appreciably affected either by the kind of milk or by the number of bacteria the milk contained. Children over three years of age showed no susceptibility at any season of the year to the use of milk containing even large quantities of bacteria. The bad sanitary surroundings so often found in tenement-house districts are apparently not in themselves a potent factor in contributing to infant mortality, although indirectly they may lead to laxity and indifference in matters of feeding. The authors remark on this head: "It is not, therefore, merely by better housing of the poor in large cities that we will see a great reduction in infant mortality." Great stress is laid on the necessity of educating mothers in the common civilized methods of the care of infants, and the point is made that this must be accomplished by personal association instead of by tracts and leaflets.

In brief, the report indicates that the use of heated milk and the instruction of the tenement-house mother in the ordinary methods of infant feeding as regards quantity, regularity, etc., are the reform measures that at present can be most hopefully undertaken. In its truly objective method of approaching the problem, as well as in its utilization of the co-operative plan of work, this investigation must rank as one of the most important studies yet made of the causes and modes of prevention of infant mortality in cities.

UNION PRACTICALLY SECURED IN NEW YORK.

We print elsewhere in this issue a telegram announcing the acceptance and adoption by the Medical Society of the State of New York of the report of the conference committee on the union of the society with the New York State Medical Association. This will be glad news for all who appreciate the conditions that have prevailed in the Empire State for over twenty years. It means the solution of a problem that has long been recognized as a difficult one, and puts an end to a strife that has not been a credit to the profession. The thanks of the medical men of the whole country should be extended to those in both organizations, who have in recent years been striving to bring about this happy consummation. To those on the outside who do not know all the intricacies of the problem, it has appeared as though its solution was an easy matter, but the difficulties of the situation were real. As we understand it, the New York State Medical Association will be merged with the Medical Society of the State of New York, and the latter will amend its charter, reincorporate and will adopt the plan of organization recommended by the American Medical Association, subject to minor changes to suit local conditions. A bill has passed the legislature of the State of New York and has been signed by the governor, permitting the state society to enter into this consolidation plan.

THE DOCTOR IN POLITICS.

THE JOURNAL has always emphasized the importance and advisability of the physician exercising his duties as citizen, and has repeatedly called attention to the influence he can exert for good on the community and profession. It has somehow become almost traditional in our profession that active citizenship and the pursuit of scientific medicine are incompatible. The brilliant examples which show that eminence in medicine is not always inconsistent with the fulfillment of the highest duties of citizenship and with the most exalted functions in the state, have apparently been taken only as the exceptions that emphasize the rule. In an address in our last issue, Dr. C. A. L. Reed takes up this subject in his own forcible and convincing way. He shows that civic duties are not to be neglected, if the physician is to fully meet the demands made on him by the public which trusts in him to guide them on matters relating both to their physical welfare and to the profession of which he is a member. The physician, as Dr. Reed says, is in touch with the public pulse as well as with individual opinions of his fellow-citizens, and he can influence these opinions as no one else can. His power for good, even in the most unobtrusive ways, seems hardly limited. It is not necessary for the physician to be a partisan, though he certainly has a right to his own convictions, but entirely aside from political partisanship, he can influence the public will and legislation on matters on which his special means of information and training qualify him to give expert opinions and valuable advice. If physicians would generally exercise this privilege, using their influence where they can affect public sentiment in the right direction, the results would be something that we have long been wishing for, and many evils that now curse the public and embarrass the profession in efforts for the public's welfare, would be suppressed or completely done away with. We have neglected our privileges too much. It is not, however, by individual work alone that the best results are to be obtained, but through organized effort. Much has been done already even in the desultory way in which medical men have worked for results, and it indicates how much more can be done with systematic and organized effort. We have had lessons enough to show us what can be done if the effort is made in the right way. In the early history of our country, as Dr. Reed points out, the medical men were the counselors, not only in medical matters, but in general affairs of the state. There were 22 physicians among the members of the Provincial Congress of Massachusetts in 1774 and 1775, and 5 physicians—a very respectable percentage of the whole considering the number in the country at the time—were members of

the Continental Congress and signers of the Declaration of Independence. Since that time the medical profession has suffered, not only in public estimation, but also in political power, and it is time that we endeavored to bring about a change that will give to us something of the consideration which our forefathers received. This can be done only by organized effort.

THE FOOTBALL FATALITIES AND INJURIES OF 1903.

Last spring we made arrangements for the collection of statistics regarding fatalities and injuries from the Fourth of July celebrations. The results which we presented were startling, for they showed a much larger fatality and a greater number of injuries than had been thought possible. Last summer we made similar arrangements for gathering the statistics regarding fatalities and injuries resulting from football. While the results of this game are not as bad and the fatalities not as numerous as are those from Fourth of July celebrations, at the same time they are sufficient to call attention to this vigorous sport and to influence one to make the query, "Does it pay?" Almost all our universities and schools now have football teams which engage in series of matches. College pride and college spirit are developed and improved by this game, and honest rivalry in manly sports and athletic exercises is encouraged, all of which is to be commended. A little more than twenty years ago the faculty of a university which now has a distinguished record in football, called before it a student who had been guilty of attempting to introduce to the students the Rugby game, and severely censured him because he was attempting to introduce a brutal sport. A professor of another university was widely quoted not long since as declaring that within the last ten years only twenty-three men had died from the direct results of the game of football in the colleges. If the statement be authentic, 1903 was a most unfortunate year for the devotees of the game. The fatalities and injuries of last year, however, were probably not more numerous or more grave than in recent years. While we do not wish to be considered as opposing legitimate athletic sports, we believe that in this particular game the human wreckage far outweighs the good resulting from three or four months of athletic exercise and training. Our statistics show that there occurred 35 deaths[1] during last year, and over 500 severe accidents to players. Beside these 35 deaths, there were 11 cases of spinal injuries, followed by paralysis, which in most cases seems to have proved permanent, and, consequently, worse than death. Sprains, contusions and scalp wounds have not been included in the list, although reports show that many of these injuries that were at first considered trivial finally resulted seriously. There were 343 fractures, most of them of the bones of the leg and forearm. There were 91 cases of fracture of the clavicle, 19 fractures of the femur and 4 of the skull. It is, of course, impossible to estimate accurately the number of permanent injuries received in these accidents, but when we consider that many of the fractures were compound, and 19 of them of the femur, we must believe that in this class alone the percentage of permanent injuries could not be very low. We can, without exaggeration, say that at least 50 deaths or permanent total disabilities resulted from the football games of 1903.

1. The following are the names of those who died, with the states in which they lived: Wilson Ackroyd, James Coneff, Jr., and W. J. Devlin of Pennsylvania; Jno. Barr, Walter Edmunds, Frank Franklin, Jno. Houghton and Frank Shanklin of Indiana; Augustus Becker, Hugh G. Leighton, Wm. Brooks and Robt. Sinclair of Illinois; James Boswell, Chas. Greene and Thornton Wheeler of Wisconsin; James Collins, J. Johnson and Daniel Meany of Massachusetts; William Connelly, Jno. J. Dixon, Leon Farley, B. Jeffrey, Thos. J. McConley, Geo. E. McClurg, Raymond McVeigh and Hugh Scofield of New York; Joseph Egan of Connecticut; H. Gustovel of Ohio; Edward Cox of New Jersey; Robert Lewin of Maryland; John Nelson of Minnesota; Jno. Snyder of Iowa; Jno. Witherell of Missouri.

THE ALBANY DIPHTHERIA STATISTICS.

The medical profession, and indeed the world at large, are now so thoroughly convinced of the efficacy of antitoxin in the treatment of diphtheria that new statistics can do little more than remind us of the security of our position in regard to the treatment of this disease. Nevertheless, it can not be said that we have yet learned all there is to know about the subject. The health office of Albany, N. Y., has recently, through Dr. Craig,[1] reported the diphtheria statistics of that city for the years 1901, 1902 and 1903. It was attempted to ascertain certain facts concerning all cases of diphtheria reported to the health office by the physicians of the city, whether or not the cases received antitoxin, and the results of the treatment. Unfortunately the day of the disease on which antitoxin was administered was not obtained. During this period there occurred a remarkable decrease in the number of cases from 632 in 1901, 356 in 1902, to 194 in 1903. One can not be certain that this is due to the use of antitoxin alone. Experience tends to show that the virulence and prevalence of diphtheria and other acute contagious diseases may vary greatly in succeeding years. That the antitoxin is of influence in limiting the number of cases can not be doubted seriously however. Cutting short the course of disease in a case, and the injection of a prophylactic dose into one who has been exposed to infection, must exert a potent influence in this direction. That the use of antitoxin should become more general was to be expected. Of the Albany cases, 81.6 per cent. in 1901 and 86 per cent. in 1903 received antitoxin. It is surprising that the percentage of mortality of the total number of cases has remained the same for the three years, about 7 per cent. This is not important, however, since in 1901 about eighty-two patients in every hundred received antitoxin, and in 1903 eighty-six, which slight increase would not affect the percentage mortality seriously. There is another important factor in this connection: A certain number of neglected cases will always be found in the crowded districts of cities, and among Eddyites and faith healers, where physicians are not called at all or not until it is too late; the deaths of such cases help to keep up the percentage of mortality, although the number of cases and ratio of deaths decrease among the more intelligent. One of Dr. Craig's conclusions is that "the medical profession is using mature judgment in the selection of cases for the use of antitoxin, the milder cases being

1. Albany Medical Annals, January, 1904.

permitted to go on to recovery without the use of antitoxin and the more severe cases, including the mixed infections, are given the benefits of protective inoculation." We are not willing to accept it as the opinion of the physicians of Albany that antitoxin should be withheld from any case of diphtheria, be it ever so mild. Aside from the fact that the danger to the community is lessened by shortening the course of the disease, the interests of the patient require the neutralization of the toxin. One needs only mention the possibility of diphtheritic paralysis to show that the indications for the administration of the antitoxin in liberal amounts are mandatory.

Medical News.

ILLINOIS.

Personal.—Dr. and Mrs. Carey Culbertson, Piper City, have returned from a seven-months' stay abroad.

Smallpox.—A case appeared at Berwyn, Cook County, last week.——Springfield is now free from the disease.——An epidemic is said to be raging in New Athens.

Hospital Staff Election.—At the annual meeting, January 19, of the staff of St. Mary's Hospital, Quincy, the following officers were elected: President, Dr. John A. Koch; vice-president, Dr. John K. Reticker, and secretary-treasurer, Dr. F. T. Brenner.

Canton Epidemic Subsiding.—Inspectors from the State Board of Health have returned from a visit to Canton, and report that only a few cases of typhoid fever still exist, and that there seems to be no danger of a further spread. About 125 cases have been reported, with 17 deaths. At present the disease is confined to ten dwellings. The local health authorities, aided by the State Board of Health, are taking all measures practicable to put an end to the disease. All wells in the city have been condemned. Every possible effort is being made to cause a disinfection of excreta, and all infected houses will be thoroughly disinfected. The city council has appropriated the funds necessary to carry out the work of inspection and disinfection.

Chicago.

New Michael Reese Hospital.—The committee now announces that it has received subscriptions for more than $200,000 of the $300,000 required to erect a new fireproof building.

Ancker Not to Come to Chicago.—It is now reported that Dr. Arthur B. Ancker has withdrawn his acceptance of the position of superintendent of the Presbyterian Hospital, Chicago, and his resignation as superintendent of the City Hospital, St. Paul, Minn.

Deaths of the Week.—During the week ended January 23, 517 deaths were reported, 49 less than for the preceding week, and 34 less than for the corresponding week of 1903. The annual death rate was 13.81 per 1,000. Pneumonia caused 106 deaths; consumption, 66, and heart disease, 47.

New Children's Hospital.—The Maurice Porter Hospital is to be torn down and replaced by a new building to accommodate sixty children. Mrs. Julia A. Porter has given $75,000 for the work. The present hospital was founded in 1882 by Mrs. Porter as a memorial to her son. At first it had 12 beds, but later 31 beds. The new building is to be a modern fireproof structure, with every facility for the care of sick children. The six requirements of the Children's Hospital Association, which will be specially followed, provide for an observation department, where children are kept two weeks before admission to the wards; an isolation department, laboratory facilities, pure milk supply, bedside and didactic instruction for nurses, and 1,000 cubic feet of air for each patient.

MARYLAND.

Railway Hospital.—The contractors of the Wabash road are erecting a first-class hospital at Little Orleans for the use of the men engaged in tunneling and other heavy work in that section.

Will Let Well Enough Alone.—The Medical and Chirurgical Faculty decided at a meeting, January 20, not at this time to agitate the state medical law. Although defective, it was feared that tampering with it by the legislators might render it still worse. Application will be made to the legislature for $50,000 for two years to build a new medical hall, now imperatively needed.

Registration of Nurses.—A bill has been prepared for presentation to the legislature by the Maryland State Society of Graduate Nurses, providing for state registration of nurses, twelve members nominated by the society and appointed by the governor to serve as the examining board. The applicant must deposit a fee of $5. Those registered may use title "R.N." The act does not forbid nursing by ordinary nurses.

Baltimore.

Rush Medical Club.—The Rush Medical Club of the University of Maryland will on February 4 celebrate its fifty-fourth anniversary.

Sewerage Bill Introduced.—The Baltimore City Sewerage Bill was introduced into the legislature, January 20. It provides $10,000,000 for the construction of the system.

Smallpox.—The British steamer *Parthenia* arrived in port last week with two cases of smallpox on board. The men and nurse were taken to Quarantine Hospital, and the ship and contents fumigated. The detention barracks at quarantine are complete. They consist of four wards, each accommodating 100 persons.

Alumni Meet.—The General Alumni Association of the University of Maryland held its annual meeting, January 21. An address on "The History of Dentistry and the School of Dentistry" was made by Dr. F. J. S. Gorgas, dean of the School of Dentistry. Dr. Eugene F. Cordell read a Latin university ode. B. Howard Haman, LL.B., was elected president and Dr. Eugene F. Cordell, secretary-treasurer.

Deaths Reduced.—There were only 188 deaths last week, 249 having occurred in the corresponding week of 1903; 27 were from pneumonia and 24 from consumption. The annual death rate per 1,000 was 17.70, the colored rate being, as usual, double that of the whites. Pneumonia is unusually and apparently increasingly fatal. A report from one of our leading hospitals shows a mortality of 40 per cent. of late cases.

MASSACHUSETTS.

Smallpox on Steamer.—A case of smallpox was found among the firemen of the S. S. *Pomeranian* on her last arrival at Boston Harbor, and was quarantined on Gallop's Island.

Physicians Will Inspect Schools.—The board of health of Malden has appointed five local physicians as special agents to inspect schools and schoolhouses twice each week for the prevention of contagious diseases and the promotion of the health of the children.

Police as Lodging-House Inspectors.—The Boston police department has detailed two inspectors to devote their time to a daily inspection of the lodging houses of the city to be sure that the laws are complied with, especially the regulations of the board of health.

State Hospitals Overcrowded.—Further evidence of the extreme overcrowding of the state insane hospitals is contained in the annual report of the State Board of Insanity. With a total of 8,610 patients, an increase of 339 in the year, 1,753 are obliged to sleep on beds in corridors and day rooms.

Limit Water Pollution.—The Supreme Court has affirmed that the rules of the Metropolitan Water Board are valid in the restrictions they may place on dwellers on the water-shed. The case in question was of one James Dorr, a mill owner at Holden, whose mill polluted a tributary of the Nashua River.

Many Cases Treated.—At the quarterly meeting of the Boston Dispensary, it was reported that 6,936 new cases had been treated at the central office and 2,282 visits made outside, an average of 297 cases treated each day. In the districts 3,217 patients received 6,088 visits, making a total number of cases cared for by the physicians of 10,153. A new district has been established in Charlestown.

Against Antivivisection.—Protests against the antivivisection bill—house bill No. 174—in the legislature are to be based on the facts that the passage of the bill will prevent boards of health from making necessary experiments; the detection of bubonic plague, glanders, hydrophobia and similar diseases; the recognition of tuberculosis; the testing of disinfectants; the study of serum reactions of typhoid and paratyphoid, and the further investigations of bacteria.

Mortality and Morbidity.—During the seven weeks ended January 23 there were reported to the Boston City Board of Health 1,536 deaths, 7 less than for the same period last year and an average weekly mortality of 18.96 per cent. less. There

were reported 452 cases of diphtheria, with 34 deaths; 291 of scarlet fever, with 21 deaths; 66 of typhoid fever, with 15 deaths; 1,077 of measles, with 19 deaths; 242 of tuberculosis, with 173 deaths. Pneumonia caused 272 deaths; whooping cough, 6; heart disease, 161; bronchitis, 55, and marasmus, 15; 260 infants under 1 year and 409 under 5 years of age died, while 359 deaths of individuals over 60 years old were reported.

Death Rate of New England.—Dr. Samuel W. Abbott, secretary of the State Board of Health, in a paper read before the American Statistical Association in Boston on "The Decrease of Consumption in New England," reported that the mean annual death-rate of New England for the past 50 years is 17.6 per 1,000, of which approximately 10 per cent. has been due to phthisis. The death rate from the latter is distinctly less, in the counties farthest from the seashore. Fifty years ago the mortality among women was fully 45 per cent. greater than that among men. During this period the mortality among both sexes has decreased, and is still decreasing, and now the mortality among women is even less than among men. He attributed the decrease to early diagnosis, better sanitation and more out-of-door life. Deaths from heart, kidney and brain diseases have increased, perhaps because more people survive phthisis, for these deaths are more among older people.

NEBRASKA.

Personal.—Dr. B. O. Young, Lincoln, after a year in East Africa, has settled in Bluefields, Nicaraugua.

Treble Size of Hospital.—Plans are being prepared for the enlargement of Clarkson Hospital, Omaha, which is to be trebled in size. The work on the new buildings is to be commenced in the spring.

To Be on Cottage Plan.—The new hospital for the insane to be erected at Norfolk is to be built on the cottage plan, which, the committee decided, was the most sanitary, desirable and inexpensive plan.

Medical Society of the Missouri Valley.—The semi-annual meeting will be held in Lincoln, March 24, under the presidency of Dr. A. D. Wilkinson, Lincoln. A symposium on pneumonia will be a feature of the program.

NEW YORK.

Communicable Diseases.—The board of health of Lockport has closed the public and parochial schools and business colleges, also the theaters. Men will be set at work fumigating all public places and street cars because of the smallpox.——There are 33 cases of scarlet fever at Dunkirk.——Smallpox has abated at North Tonawanda.

Personal.—Dr. W. J. Fleming, Troy, has been appointed physician in the department of charities and correction.——Dr. William Hailes, Jr., has been appointed consulting surgeon. Dr. Edgar Vander Veer, attending surgeon; Dr. Sautter, assistant attending dermatologist; Dr. Albert Vander Veer, surgeon-in-chief, and Dr. Arthur Elting, attending surgeon, in the Albany Hospital.

Needs of State Hospitals.—The eleventh annual report of the state charities aid associations has been forwarded to the State Commission in Lunacy. It states that on Oct. 1, 1903, there were in the various state hospitals for the insane, 2,666 patients in excess of the capacity of those institutions. The building operations now under way will provide accommodations only for the overcrowding existing at the present time and make no provision for the future. Estimating the annual increase at 700 for the state more accommodations must soon be made. There are two ways of providing for these patients: First, by enlarging the existing hospitals, and second, by building new hospitals. At Utica, Willard, Hudson River, Middletown, Binghamton, King Park and Manhattan, the accommodations for acute cases are unsatisfactory, and each of these hospitals should be equipped with a reception pavilion. At Binghamton and Gowanda, by acquiring more land, 1,350 more patients could be cared for. In large cities psychopathic or reception hospitals could be built for the curative treatment of the acutely insane or for the preventive treatment of incipient cases, and large hospitals on the colony plan in the country for the acute and chronic cases. The association estimates the requirements for 1904 to be appropriated by the legislature at $6,710,000. It is urged that a larger allowance of milk and eggs for patients be permitted. Cases of pulmonary tuberculosis might perhaps be prevented if the milk and eggs that are now furnished after the patients develop the disease were provided earlier. The per capita cost of food at present is but 15 cents a day.

Buffalo.

Hospital Needed.—Health Commissioner Greene has again petitioned the board of aldermen for a new quarantine hospital. The present hospital is said to be unfit for human habitation. Bonds have been issued and a site selected for the new hospital, and there should be no excuse for further delay.

Personal.—Dr. Eugene A. Smith has been appointed surgeon of the Fourth Brigade, N. G., N. Y., with the rank of lieutenant-colonel, vice Dr. Floyd S. Crego, resigned.——Dr. Joseph Burke has been made a surgeon-in-chief of the Lackawanna steel plant hospital at Stony Point.——Dr. William C. Krauss has been elected president and Dr. Vertner Kenerson, secretary, of the Emergency Hospital staff.

Opticians Not Physicians.—The Buffalo Academy of Medicine has adopted resolutions on the proposed bill to give opticians medical standing (see THE JOURNAL, January 23, p. 255). They call attention to the very decided harm that can be done to patients unless the person who prescribes glasses for them has a knowledge of medicine as well as of optics, and express the sentiment of the academy as unalterably opposed to giving the privilege of the practice of medicine to any persons not qualified for this responsibility by a knowledge of the fundamentals of medicine, to wit, anatomy, physiology, chemistry, pathology, physics and hygiene as demanded by the state examining boards.

New York City.

Increases Tuition Fee.—Columbia University College of Physicians and Surgeons has increased the annual tuition fee from $200 to $250, because of increased cost of instruction. This is in force beginning July 1, 1904.

Presentation to Lederle.—The employes of the health department, on January 18, presented to former Health Commissioner Ernst J. Lederle a solid silver tea service, a gold match box and half a dozen porcelain cups and saucers, the presentation being made by Dr. Herman M. Biggs.

Society Election.—The annual election of the Medical Society of the County of Kings, held January 19, resulted as follows: President, Dr. John E. Sheppard; vice-president, Dr. James W. Fleming; secretary, Dr. William S. Hubbard; associate secretary, Dr. William C. Woolsey; treasurer, Dr. Onslow A. Gordon; associate treasurer, Dr. John R. Stivers; directing librarian, Dr. James M. Winfield, and censors, Drs. Henry G. Webster, James P. Warbasse, William F. Campbell, William F. Dudley, and Walter C. Wood, all of Brooklyn.

New Medical Society.—The East Side Physicians' Association of the City of New York was organized, January 15, with the following officers: Dr. Ignatz M. Rottenberg, president; Drs. Maurice J. Burnstein and Frederic N. Wilson, vice-presidents; Dr. Nathan Friedman, secretary; Dr. Maurice Caspe, treasurer; Dr. Sigmund A. Tarler, chairman of ways and means committee; Dr. William S. Gottheil, chairman of committee on ethics; Drs. Robert Abrahams, Abram Brothers and Max Landesmann, trustees, and Drs. Maurice M. Berger, Julius Solow, Waldemar Dorfman, Pierre A. Siegelstein, and Isidor Ritter, committee on admission.

Instruction in Special Lines.—Cornell University Medical College has inaugurated special instruction and lectures by some of the subordinate professors and assistants, who are conducting more or less specialized lines of research. In addition, these lectures will present summaries as well as detailed knowledge of all the advances made in these different branches. As illustrations may be mentioned, in the department of general surgery, Professor Kammerer on "Intestinal Obstruction," and Prof. A. B. Johnson on "The Surgical Disorders of the Breast"; in general medicine Dr. Conner on "The Ductless Glands," and Dr. Camac "The Practical Aspects of Infection and Immunity." These lectures will be delivered before the fourth and third year classes of the college. Some of the subjects, however, are of such general interest that invitations will be sent to all members of the faculty and practitioners who may be interested.

OHIO.

Personal.—Dr. Wilfred J. Taylor, Dayton, has been appointed physician to the Montgomery County Infirmary.—Dr. Francis Alter, Toledo, has gone abroad for a year.

New City Hospital.—On January 20 a fully attended meeting was held in the Cincinnati Hospital, consisting of the medical staff, the board of medical advisers, the hospital commission, and the members of the board of public service, to decide on plans for the new city hospital. The consensus of opinion was

that the cottage plan in vogue at Johns Hopkins and many of the large European hospitals would be the best.

Societies and Elections.—MONTGOMERY COUNTY MEDICAL SOCIETY.—At the annual meeting the following officers were elected: Dr. John C. Reeve, Jr., president; Dr. Henry S. Kimmel, vice-president; Dr. Wilfred J. Taylor, secretary; Dr. D. C. Siebliter, treasurer; and Dr. Duff W. Greene, censor, all of Dayton. The secretary's annual report showed a total of 278 practitioners, or about one to 480 of the population. There were 34 new registrations in the county during the year.

CINCINNATI SOCIETY FOR MEDICAL RESEARCH.—On January 21 this society elected the following officers: President, Dr. David I. Wolfstein; vice-president, Dr. A. Knight; secretary-treasurer, Dr. Samuel I. Iglauer.

DAYTON ACADEMY OF MEDICINE.—The academy has elected the following officers: Dr. Daniel B. Conklin, president; Dr. William A. Ewing, vice-president; Dr. Matthew Porter, secretary; Dr. William A. Burns, treasurer; Drs. William C. Marshall, Herbert C. Haning and Clifton L. Patterson, censors, and Drs. Edwin M. Huston, Richard S. Gaugher and A. H. Dunham, entertainment committee.

ACADEMY OF MEDICINE OF TOLEDO AND LUCAS COUNTY.—At the annual meeting the following officers were elected: President, Dr. John A. Wright; vice-president, Dr. Charles Betts; recording secretary, Dr. Charles P. Wagar; financial secretary, Dr. Pringle G. Tait; treasurer, Dr. Willis W. Grube; censors, Drs. Herbert E. Smead and William J. Gillette, and member library board, Dr. A. L. Steinfeld.

CLINTON COUNTY MEDICAL SOCIETY.—At the annual meeting, held December 30, the following officers were elected: Dr. Allen T. Quinn, Wilmington, president; Dr. Samuel B. Lightner, Sabina, vice-president; Dr. Eldorado C. Briggs, Wilmington, secretary, and Dr. Rodney T. Trimble, New Vienna, delegate to state society. The society was reorganized under new constitutions in May, 1903, and has received a charter from the state society.

MEDICAL OFFICERS' ASSOCIATION OF THE OHIO NATIONAL GUARD.—The medical officers of the national guard of the state met at Columbus, January 11, and effected an organization, electing the following officers: President, Surgeon-General Edmund C. Brush, Zanesville; vice-president, Surgeon-Major Fred C. Weaver, Dayton; secretary and treasurer, Surgeon-Major Trevanion V. Dupuy, Dayton, and executive committee, Surgeon-Captains James H. Wright, New Lexington; Sterling B. Taylor, Columbus, and Herrick, Cleveland.

CANTON MEDICAL SOCIETY.—This society held its annual meeting, January 5, and elected the following officers: President, Dr. David F. Banker; vice-president, Dr. Edward S. Folk; recording secretary, Dr. Charles A. Crane; corresponding secretary, Dr. George F. Zinninger; treasurer, Dr. Frank Da Hinden, and censors, Drs. Charles E. Schilling, Frank W. Gavin, and Edward O. Morrow. The society held its second annual banquet January 8. Dr. Edwin Ricketts, Cincinnati, delivered an address on "Infection of the Biliary Output." About 70 physicians were present.

CANADA.

Toronto University Expenses.—The estimates of Toronto University for the current year have been prepared in readiness for presentation to the Ontario legislature, now in session. They call for an expenditure of $150,663.50, exclusive of the departments sustained by the government.

Sensible Treatment of Antivaccinationists.—The Antivaccination League of Toronto interviewed Premier Ross last week and presented their views in favor of making vaccination optional. Premier Ross told the deputation to go before the Provincial Board of Health and try to persuade them to recommend the legislation.

Ontario Statistics for December.—The December death rate in Ontario was on a level with the average. There was a total of 2,141 deaths. Contagious diseases numbered: Smallpox, 13 cases, no deaths; scarlet fever, 231 cases, 20 deaths; diphtheria, 473 cases, 71 deaths; measles, 14 cases, one death; whooping cough, 8 cases, 4 deaths; typhoid fever, 120 cases, 24 deaths. There were 146 deaths from tuberculosis.

The Typhoid Situation in Montreal.—Typhoid fever was the cause of nine deaths in Montreal during the week ended January 16. The deaths from all causes during that week were 122, an average rate. There are now between 120 and 130 cases of typhoid fever in the Montreal hospitals, and no new cases can be taken into either the General or the Royal Victoria. The epidemic appears to be practically over. Only two new cases have been reported in Westmount during the past four days, this making the total in that suburb 77 since the epidemic started. The Quebec Board of Health sent out an official circular to all Montreal physicians requesting their co-operation in quelling the outbreak.

Annual Report, Royal Victoria Hospital, Montreal.—Jan. 1, 1903, there were 188 patients in the Royal Victoria Hospital, Montreal. During 1903, 2,911 were discharged, of whom 1,397 were well, 914 improved, 165 not improved, 293 not treated, and 142 died. There were remaining in the hospital, Dec. 31, 1903, 208. Of the 142 deaths 38 took place within forty-eight hours of their admission. Deducting these the death rate has been 3.57 per cent. In the out-patient department the total number of patients treated was 4,398. The number of visits of these patients aggregated 23,638. The income for the year amounted to $140,368, while the ordinary expenditure amounted to $120,419. The total cost per patient per day was $1.62½.

Personal.—Dr. T. J. Moher, assistant superintendent of the Institution for the Feeble-Minded, Orillia, Ont., has been made medical superintendent of the Asylum for the Insane, Brockville, Ont., in place of the late Dr. Murphy.——Dr. Peter H. Bryce, secretary of the Ontario Board of Health, has been appointed inspector of immigration of the interior. He will probably be succeeded on the board of health by Dr. C. A. Hodgetts, who for some time past has been provincial health inspector.——Prof. W. D. Halliburton, F.R.S., professor of physiology in King's College, London, England, delivered a lecture, January 22, to the medical faculty and students of Toronto University, on "Degeneration and Regeneration of Nerves," with lantern slide illustrations.

Annual Meeting Western General Hospital, Montreal.—At the annual meeting of the Western General Hospital, Montreal, last week, the reports showed that the number of patients treated during 1903 was larger than ever before. After deducting the cases which terminated fatally within 48 hours of admission, the death rate was only 3 per cent. The report also stated that a new hospital building was becoming more necessary every day. Those treated in the hospital numbered 600; in the outdoor department, 7,560, an increase of 990 over the previous year. The average number of days' stay in the hospital was 18.3. Dr. G. H. Matthewson was elected secretary, and Drs. F. R. England and F. W. Campbell medical representatives on the board of governors.

FOREIGN.

Sixth International Congress of Physiology.—Brussels will welcome this congress Aug. 30 to Sept. 3, 1904. Communications should be addressed to Dr. Slosse, Institute Solvay, Parc Leopold, Brussels, Belgium.

Decrease of Malaria at Rome.—The *Riforma Medica* proudly states that the death rate at Rome is now one of the lowest in any city. The mortality from malaria has fallen from 650 in 1881 to 76 in 1901. As the population has increased during this period by 170,000 inhabitants, the mortality quotient from malaria has dropped from 21 to 1 per 10,000 inhabitants.

Sardou, the Playwright, a Medical Student.—Victorien Sardou it seems was a medical student at one time, and relates that he and his mates made a special study of hypnotism and hysteria long before Charcot. He believes that the phenomena of hypnotism and hysteria explain all the magic and witchcraft of the ages. His play, "La Sorcière," in which Sarah Bernhardt is starring at present, is based on these memories of his days as a medical student.

French Congress of Gynecology, Obstetrics and Pediatrics.—The fourth periodical congress with the above title is announced to convene at Rouen, April 5 to 10, 1904. Professor Richelot of Paris will preside over the general sessions, Guillemet of Nantes over the section for obstetrics, and Kirmisson over pediatrics. The secretary is Dr. A. Martin, 6 Place de la Cathédrale, Rouen; subscription, $4. The congress is open to all physicians, philanthropists, medical students and midwives.

Chantemesse, the New Inspector-General of the French Sanitary Service.—Dr. Chantemesse, professor of experimental and comparative pathology at the Paris Faculté de Médecine, has been made inspector general of the sanitary service, in the place left vacant by the recent death of A. Proust. He has for years taken an active part in the campaigns against epidemic diseases, against plague in Spain, cholera in Egypt and Portugal, and typhoid fever in France, either personally or by consultation. Jules Renault and P. Faivre have been appointed inspectors under him.

Proportion of Deaths to Attendance at Theater Fires.—The *Gazette Méd. de Paris* states that in a theater panic and fire

about one out of every three spectators perishes. This was the proportion at the Brooklyn Theater fire in 1876, with 400 victims; at Nice in 1880, with 65 victims; at the Ring Theater at Vienna in 1881, with 600 victims; at Smolensk in 1883, with 380; at the Opera-Comique at Paris in 1887, with 131; the Exeter Theater in England, with 127 victims, in 1887; at the Oporto Theater in 1888, with 80, and at the Iroquois Theater in Chicago, where 573 perished.

Discontinuance of Indian Medical Record.—This journal, published in Calcutta, stops with the fifty-second number of its twenty-fourth volume. It was formerly published by Dr. J. R. Wallace, and since his death the executors of his estate have continued it. They now announce that it is necessary to discontinue. The journal has been the exponent of the Anglo-native medical element, as contrasted with the official service. One of the noteworthy stands it took was in opposition to the for-revenue-only opium report. It was one of the best of our Indian exchanges, and we regret that it is no longer to be published.

Swedish Medical Association Prize.—This prize of $270, for 1903, was awarded to Prof. M. G. Blix of Stockholm for his research on the temperature of the muscles. No communications were received in competition for the Alvarenga prize. Among the foreigners elected members of the association during the year were Nicholas Senn of Chicago, N. R. Finsen, B. Bang, I. Pawlow of St. Petersburg, Zuckerkandl, Waldeyer and L. Meyer, T. Rovsing, A. Krogius and several other prominent Scandinavians. The association prize for 1904 will be awarded for some medical theme. Prof. P. J. Wising will resign as editor of the society journal, *Hygiea*, next June.

Northern Congress of Surgery.—This congress of the surgeons of the northland will be held at Göteborg, August 9 to 11, 1904. Four questions have been appointed for discussion, with addresses as follows: "Functional Tests of the Kidneys," addresses by T. Rovsing and by J. Nicolaysen; "Treatment of Extra-uterine Pregnancy," addresses by L. Meyer and O. Boije; "Early Operation in Appendicitis," addresses by A. Krogius and F. Bauer, and "Indications for Operation in Affections of Biliary Passages and Pancreas," with addresses by H. Ström and G. Naumann. The latter is the secretary of the congress, his address being: Viktoriagatan 2a, Göteborg, Sweden.

Admission to International Congresses.—The national committee for Great Britain has passed resolutions to the effect that international medical congresses shall in future be limited to physicians who apply for membership. Scientists whose names are presented by the national committees may also become members. These were the restrictions adopted at the Paris International Medical Congress, but the Madrid Congress disregarded them and opened its doors to a promiscuous throng. The above resolutions drawn up by the British committee have been forwarded to the executive committee of the approaching International Medical Congress to be held at Lisbon.

Progress for Women Physicians in Sweden.—In January, 1901, the women physicians of Sweden presented a petition to the king asking that women be allowed to compete for the various official medical positions, which had hitherto been restricted to male candidates. After long consideration King Oscar has issued a decree, dated Nov. 6, 1903, which grants nearly all the demands of the petitioners. The only medical positions from which they are still excluded are those in the railway service and some minor posts. The decree further states that if a woman in an official medical position marries this step shall be accepted as implying resignation of her position.

First International Congress of School Hygiene.—This is to be held at Nuremberg, April 4 to 9. Addresses are to be made on "What Has Ophthalmology Done for the School Children, and What Has It Yet to Do?" by H. Cohn of Breslau; on "The Present Status of School Hygiene in Norway," by A. Johannesen of Christiania; on the "Hygiene and Personal Illnesses of the Teachers from the Standpoint of Their Relations to Their Pupils," by Le Gendre of Paris; on "Organization of the Public Schools According to the Natural Capacity of the Children," by Sickinger of Mannheim; on the "Task and Training of School Inspectors," by Liebermann of Budapest; on "Prevention of Infectious Diseases in Schools," and on "Suicide Among School Children," by Eulenburg of Berlin.

Baccelli Leaves the Italian Cabinet.—For two years Baccelli has been minister of the department of public instruction or of agriculture, and has accomplished some notable reforms along various lines while in office. He has now returned to his beloved clinic at Rome, and the occasion was celebrated by his friends with much rejoicing. The legislation adopted by his efforts to combat malaria, pellagra, etc., will have far-reaching effects, as also the legislation he secured to prevent child labor. He loses no opportunity to proclaim his opinion in regard to the necessity for combining medicine and politics, and urges medical men to enter political life. Experienced physicians are far better able to decide many of the questions that press for solution than lawyers or professional politicians, he believes, and deplores the general neglect of these opportunities.

New German Postgraduate Organ.—The committee in charge of the semi-official, extensive postgraduate courses now organized in most of the German cities from the central headquarters in Berlin, has founded an organ, the *Zeitschrift f. ärztliche Fortbildung*. E. v. Bergmann and M. Kirchner, with R. Kutner, form the editorial staff. The chief aim of the review will be the publication of comprehensive lectures delivered in the various courses. The first number has appeared, and publishes an appeal from the minister of public instruction calling on those in charge of the courses to pay special attention to training those who attend in the diagnosis and treatment of venereal diseases, and also to impress on them the all-importance of prophylactic warnings and advice to the public to urge the necessity for avoidance of venereal disease and for its prompt treatment when acquired.

Anglo-American Medical Association.—A photograph of the members of this association is reproduced in the *Berlin and Continental Herald*, Dec. 12, 1903, thirty-five members being presented. Among them are many familiar faces from Chicago, New Orleans, and other cities. The association was reorganized in October, with Dr. J. H. Honan, now a resident of Berlin, president; and Dr. J. Cheston King, Atlanta, Ga., secretary and treasurer. Its object is to impart information to the English and American physicians coming to Berlin to study, to direct and advise regarding the post-graduate work in the university, clinics and hospitals, and to give valuable hints and suggestions, the result of the experience of those who have been longer in Berlin. A meeting is held every Saturday night, and an address is usually given by some eminent man, such as Ewald, Hoffa and Oppenheim. Dr. Ewald appears in the photograph mentioned.

Laboratory for Curie.—A prophet is not without honor save in his own country, but after other countries do him honor, his own compatriots usually look on him with different eyes. This was exemplified in the case of Ramon y Cajal, whose famous researches were conducted with the most modest resources and means until an international prize was bestowed on him, after which the Spanish government appropriated funds and a special laboratory for his further research. Since one of the Nobel prizes was awarded to Curie and Becquerel, France is heaping honors on them, and has taken steps to supply Curie with a new laboratory. The minister of public instruction has appealed to the parliament for an appropriation to found a new professorship, a chair of general physics, for him. He has declined to be decorated with the cross of the Legion of Honor, which was conferred on him at once, and it is more than probable that he will decline the professorship, as his time is already occupied.

Alumni Reunion at Mexico.—The alumni of the National Medical School of Mexico, who commenced their course twenty-five years ago, gathered at Mexico, January 7, for their first reunion. Out of a total of 94 only 34 per cent. are still living, and some of these were unable to attend. In scarcely more than twenty years of professional career death has claimed 66 per cent. As a souvenir of the occasion each wrote in an album some thoughts on the life of the physician. One wrote that "The physician has to carry not only his own burdens but those of other people"; another, "Medicine is most beautiful in theory but horrible in practice"; another, that he longed for a physician who "could cure him of the necessity for curing others." Others wrote on the great contrast between their early ideals of the life of the physician and what they have found it in reality. One commented that the soldier "dies for his country, but the physician lives for it and works that others may live for it too."

CONSOLIDATION IN NEW YORK.

The Society Approves the Plan for Union.

(By Telegram from Our Special Correspondent.)

ALBANY, N. Y., Jan. 26, 1904.

At the first session of the Medical Society of the State of New York, beginning here to-day, the first order of business following President Bristow's address was the report of the

committee of conference appointed last year to act with a like committee from the New York State Medical Association looking to the union of the two bodies. The report was an able review of the year's work, including an account of the permissive act which was passed by the general assembly, and approved by the governor, to overcome the legal difficulties in the way of union. The report concluded by recommending the adoption of the complete plan of organization of the American Medical Association for the government of the joint body, with only such changes as may be found to be necessary to adapt it to local conditions. Dr. Bristow had made an earnest plea for unification in his address, and after able addresses of endorsement by Drs. Jacobi, Roosa, Potter, McDonald and Park, and without a word in opposition, the report of the committee was adopted with much enthusiasm. Representatives of the association are here in cordial co-operation with the society people, and it apparently only remains for that body to act for the union to be completed.

Correspondence.

Sugar Metabolism and Diabetes—A Question of Priority.

CHICAGO, Jan. 22, 1904.

To the Editor:—In an able editorial published in a recent issue of THE JOURNAL (1903, p. 1480) you call attention to Cohnheim's discovery that the pancreas mixed with muscle tissue possesses the power of destroying sugar, and you properly emphasize the fundamental importance of this finding inasmuch as it aids in interpreting the rôle of the pancreas in sugar metabolism and diabetes. You also say, "Of course this does not preclude the possibility of a similar combined effect with substances in other tissues of the body where sugar is burned." As a matter of fact, another investigator, working simultaneously with Cohnheim, discovered that pancreas and liver combined also possessed sugar-destroying powers. You lay particular stress in this editorial on the fact that the pancreas alone, or the different tissues of the body alone, can not destroy sugar, whereas the addition of pancreas to different organs probably bestows this power on them, and you say: "Why it had not occurred to any one that it might be the work of the two together is the chief mystery."

I wish to call your attention to two reports of experimental work that I published in 1902. In these I showed conclusively that a mixture of pancreas extract and hemoglobin possesses the power to a marked degree of destroying sugar (and that incidentally in this process the hemoglobin is converted into bile acids and bile pigments, a conversion that takes place only in the presence of sugar). Commenting on this discovery, I say in one of these articles ("Some Experiments on the Formation of Bile Acids and Bile Pigments," *Phila. Med. Jour.*, 1902, p 143), "A considerable proportion—of the pancreatic ferments—is secreted internally and is poured into the blood and lymph-stream to perform an important function in intracellular digestion—viz., proteolysis and glycolysis." In the other paper ("An Experimental Investigation into the Causes and Treatment of Diabetes," *Am. Jour. Med. Sci.*, 1902, p. 669), I say in referring to these experiments, "a determination of the sugar before and after showed that a considerable quantity of the sugar had been destroyed; in other words, trypsin (I use this term for an alcoholic precipitate of pancreas extract) in the presence of hemoglobin, possesses glycolytic powers."

The principle, therefore, of the combined action of pancreas and an albuminoid body in promoting sugar destruction was established at that time; and until proof to the contrary is forthcoming, I do not consider it at all improbable that the hemoglobin contained in the muscle and liver tissues employed by the investigators mentioned is the substance that is destroyed by pancreas, while at the same time some sugar is burned up in the process.

I am writing you this, anent another very able and very true editorial that you published some months ago, in which you decry the tendency on the part of certain European writers to ignore American contributions to science, and in which you charge them with unpardonable ignorance of our American literature.

ALFRED C. CROFTAN.

Depressant Drugs and Sudden Death.

GREENVILLE, OHIO, Jan. 22, 1904.

To the Editor:—I believe that the reasoning in your editorial on "Depressant Drugs and Sudden Deaths" (THE JOURNAL, Jan. 16, p. 177), is at fault when you say that "a portion of the decrease in the number of sudden deaths from heart disease to population, has been ascribed definitely—and with considerable plausibility—to a certain cause," which, in substance, you say is that, owing to steps taken by the Board of Health of New York City to prove that a certain coal-tar product was being adulterated by the addition or substitution of acetanilid, and owing to threatened exposure and prosecution the substitution had abated to the extent of reducing the death rate from heart disease from the ratio of 1.34 in a thousand in 1902 to 1.28 per thousand in 1903. It seems more plausible to ascribe this decrease in mortality to the awakening of the public generally, and of physicians especially, to the fact that all of the coal-tar products are dangerous to life and a menace to health when used indiscriminately as heretofore.

Substitution is held in abhorence by the medical profession, which, ever ready to encourage any legitimate means to suppress sophistication in medicine, should not stop in its research when it has found one adulterated article, but should search with renewed vigor for everything that is likely to be adulterated with anything injurious to health.

It occurs to me that it would be interesting to have the statistics of other cities so that we could study the comparison. In a paper read at the meeting of the American Pharmaceutical Association at Mackinac Island, last August, G. M. Beringer gives us the analyses of 182 samples of this coal-tar product, obtained from seven cities in the United States, and of nine samples obtained from Newark, N. J., not one was adulterated, while of the sixty samples obtained in New York City, 50 were pure, 7 grossly adulterated and 3 contained traces of adulterants. Baltimore shows the largest per cent. of adulteration, for out of 45 samples 18 were adulterated, so that accordingly we should find the death rate from heart trouble to be greater in Baltimore than in New York, and in the latter city greater than in Newark. If, as the manufacturers assert, more than five thousand druggists of the United States are stocked with a spurious product, how is it possible for any physician who prescribes this article to have any assurance that his prescription will be filled properly?

It would be better for the public if our profession would teach it to look on proprietary medicines generally as being protected by a wilful perversion of law, and an attempt to substitute for the old patent and trademark system, a system of unlimited monopoly, preventing competition, instead of inducing manufacturers to improve methods of manufacture for the purpose of excelling one another in producing the same article of a better quality or at a lower price.

PHILIP DICKES, M.D.

Firm Desires to Purchase Fraudulent Testimonials.

FLINT, MICH., Jan. 23, 1904.

To the Editor:—I received this morning a letter, of which the following is a copy:

CHICAGO, Jan. 22, 1904.

Dr. C. B. Burr, Flint, Mich.

Dear Doctor:—Your name has been handed us with a few other thoroughly reliable physicians in the United States, and referred to as well known throughout your part of country, and for this reason we are making you the following splendid proposition:

We are now ready to furnish to the medical profession a new electric medical bath machine on which we secured patents Sept. 30, 1903. This new therapeutic (sic) instrument is admitted by medical experts to be the best physician's medical battery ever put on the market. It was invented by an electric genius, and is no doubt considered the most perfect instrument of its kind ever placed on the market, and we guarantee it in every respect.

We are just printing a new catalogue and in it we would like to have a few testimonials from some reliable physicians throughout the United States. As we have got but five days before this book goes to press we have decided to give each of these physicians one of these outfits, as per enclosed illustration, absolutely free, on

receipt of the enclosed testimonial plainly signed in your own hand writing.

On receipt of this testimonial we will ship you one of these physician's outfits absolutely free.

Trusting that you will give this your prompt and immediate attention, and thanking you in advance for this favor, we remain,

Respectfully yours, U. S. STANDARD ELECTRICAL WORKS.
Per F. J. Osius, Pres.

Enclosed with the letter was the following, which it was hoped I would sign and return:

November 17, 1903.

U. S. Standard Electrical Works, Chicago, Ill.

Gentlemen:—I am pleased to recommend your Electric Bath Machine. I have used one for the last few weeks and will say that I could not afford to be without it. Please ship me another by return express and greatly oblige, Very truly yours,

Enclosed also was a cut of the machine for which the lying endorsement was requested. I shall respond to the communication as follows:

United States Standard Electrical Works:

Your letter of the 22d inst. is received. I am perfectly astounded by it. Is it possible that you expect a *reputable physician* who has never seen your bath to sign a letter dated Nov. 17, 1903, stating that he recommends it and that he has "used one for the last few weeks?" You say that on receipt of a testimonial for which the form is prescribed, one will be sent without cost. The proposition seems to me wholly corrupt and I think it my duty to give it publicity in THE JOURNAL of the American Medical Association.

C. B. BURR.

Very truly yours,
C. B. BURR.

Organization in Iowa.

IOWA CITY, IOWA, Jan. 22, 1904.

To the Editor:—In behalf of and in justice to the medical profession of Iowa, I submit the following corrections. Dr. McCormack, in his "Plea for Unification" (THE JOURNAL, Jan. 16, 1904, p. 167), uses the following language:

It is true that in nearly every state where this plan of organization has been proposed, as was natural and to be expected, academic and purely theoretical objections have been made to some feature of it, usually to the council, the house of delegates or to coincident membership. Such objection has always been made in advance of a trial of them, *and they have been confined almost entirely to states which have been practically without organization heretofore. Conditions in Iowa illustrate this point well.*

I have italicized what seems to me a totally unjust and probably unintentional use of Iowa as an example, which, as it stands, is open to interpretation the furthest possible from the truth of the case. We assert, for the medical profession of Iowa, that it has been not only well organized, but that in proportion to the population it has been the best organized and the most harmonious in its associations of any state in the Union. Its state society numbers 805 members, all (except 15, with more than thirty years' membership) having entered as delegates from county societies. Iowa has 543 members of the American Medical Association, a number exceeded only by New York, Pennsylvania, Ohio and Illinois. Nor are the objections in Iowa of the nature alleged by Dr. McCormack; there has been no objection to the principles of the original report of the committee on reorganization, as made by Dr. McCormack, at St. Paul in 1901. There have been and are objections to the validity of the alleged adoption of the "standard" at Sioux City, April 17, 1903, and to the "standard" as representing the principles of the St. Paul report. C. M. HOBBY.

Fifteenth International Congress of Medicine.

Dr. John A. Wyeth, New York City, has sent us a letter which he has received from Prof. Miguel Bombarda, secretary-general of the International Congress of Medicine to be held at Lisbon in 1906. Dr. Wyeth expresses the hope that the unpleasant experiences of our delegates at Madrid will not deter us from taking an interest in the Lisbon congress. He suggests that it would be well for THE JOURNAL of the Association to inaugurate this movement by printing at this time this invitation.

A translation of the letter referred to is as follows:

LISBON, Dec. 22, 1903.

Sir and most honored confrère:—At the last international congress at Madrid, Lisbon was designated as the place of meeting of the Fifteenth International Congress of Medicine, and the medical profession of Portugal, appreciating the great honor conferred on it, accepted with pleasure the decision of the representatives of the various countries gathered at Madrid and set about the work with the greatest enthusiasm. The executive committee and the committee on organization have already been appointed, and the various sections of the congress now being formed will complete the organization. Following the precedence of former congresses the executive committee has decided to establish in all the countries which will send delegates to Lisbon, subcommittees or bureaus of information, being convinced that with the hearty co-operation of the profession the Fifteenth Congress will achieve the end for which this international scientific gathering was intended, viz.: the advancement of medical science. For this reason I appeal to your aid in organizing the bureaus of correspondence and of information in the United States.

MIGUEL BOMBARDA, Secretary-General.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PASTORAL MEDICINE—THE BUSINESS SIDE OF PRACTICE.

CHICAGO, Dec. 22, 1903.

To the Editor:—I would like to see in your Minor Comments department what you think in regard to the addition to the medical course in colleges of lectures in what might be called pastoral medicine analogous to those on pastoral theology in divinity schools. The latter covers the relation of the minister to his flock collectively and individually, to his fellow clergymen, to church property, to types of human nature, etc., covering a number of things relating to the success of his work. It seems to me that we who are students ought to have the benefit of lectures by an experienced man with a broad outlook on human nature and with the ability to handle the questions relating to the physician's getting on in the world, having granted a reasonable scientific equipment. Such things as location, buying a practice, relations to other physicians, to politics, requirements for office, location of office, how to make a professional call or how not to make one, are a few of the things that might be covered. It seems to me the young physician might be headed off from a great many blunders in this way.

E. P. S. MILLER ('05, P. & S.).

ANSWER.—Our correspondent has touched on a matter that has always seemed to us of great importance. The first duty of a medical school is, of course, to impart a thorough and scientific knowledge of medical matters. But it might well go a little further and instruct the young physician regarding the right way to put his knowledge to practical use as a means of earning a livelihood. To be sure, each man has to work out his own salvation. No amount of teaching can tell him how or when to make a professional call. He learns by experience; or if he have not the right make-up he never learns, always blunders and is a failure. But many fundamental principles as to the practice of the art could be imparted to students, that would tend to broaden their views as to their life work, make it appear more as a profession and less as a trade, save them from many serious mistakes and perhaps save them from that disastrous termination of many a brilliant career, the degradation into a sordid money maker. At least an elective course, consisting of lectures by a competent man, should be given in every college, to afford to the student the opportunity of learning concerning these matters that are of such practical importance. In addition to the subjects referred to by our correspondent such topics might be considered as the ethics of medicine, fees, that curse "commissions," medical societies, medical literature, malpractice, the physician's recreation, etc. Some colleges provide one or more lectures, but none, so far as we know, recognizes the importance of such a course of lectures.

DOES INGESTED FORMALDEHYD HARDEN THE LIVING TISSUE?

WEBB CITY, MO., Jan. 13, 1904.

To the Editor:—Considering the well-known effect of formaldehyd hardening tissues, the question of the action of the drug on the epithelium of the kidney tubules following the administration of remedies containing the drug suggests itself to me. Has there been any report showing the effect, as found postmortem, on the kidneys of patients who have, during life, taken urotropin, formin, cystogen or other preparations containing formaldehyd?

L. C. CHENOWETH.

ANSWER.—So far as we know, there have been no reports to show that urotropin, etc., cause any permanent changes in the kidneys. The exact place in the urinary tract where urotropin forms formal-

dehyd does not seem to be known definitely. It may be that the formaldehyd does not have the chance to act as such on the cells of the kidney. Then, again, the dilution may be so great that while the antiseptic properties are still apparent, yet no cellular and reactive changes are produced. Investigations on persons who have habitually used foods, etc., preserved by formaldehyd may be of value. The Department of Agriculture experiments on humans under Dr. Wiley's supervision may add some facts. Coleman (*Med. News*, Aug. 29, 1903,) has collected and reported a number of cases of temporary toxic effects, strangury, hematuria, gastric and intestinal disturbance, etc., following the use of urotropin, which he attributes to idiosyncrasy, interference with the usual disposition of the formaldehyd in the body, or in the liberation of an unusual amount of formaldehyd. In all the cases the discontinuance of the drug was followed by rapid disappearance of the symptoms, which were altogether exceptional. Toxic effects from the drug as ordinarily given are very rare.

INFANT DEATH RATE AND SCHOOL HYGIENE.

SIOUX CITY, Jan. 21, 1904.

To the Editor:—1. Can you give me the death rate of children from birth to at least three years old, especially where the cause is mostly due to feeding? Or what proportion of all children born die before the third year is reached? 2. Can you refer me to some article on ventilation of public schools? MILTON DAILY.

ANSWER.—1. The average death rate of children, as given in Newsholme's "Vital Statistics," varies from about 100 to 300 per thousand births in the different countries during the first year of life. The "Vital Statistics Report" of the United States Census Bureau gives the death rate for the year 1900 in the first year of life as 193.2; and 85.3 added to this number during the second and third years make a total of 278.5 under three years of age per thousand of population. The registration area in this country, however, is so small and the vital statistics so imperfectly reported through the greater portion that this can not be taken as the actual average for the whole. The death rate of children under three years of age would probably average not less than 250, and possibly higher for the first three years of life. The fact that the registration areas include the large cities where infant mortality is high must be considered.

2. We know of no recent article especially devoted to school ventilation; various works, like that of Morrisson's, published in 1887, are to be had through any book seller. But the subject is treated of in general works on hygiene like Chapin's "Municipal Sanitation," Egbert's "Hygiene," etc.

LITERATURE ON ILLEGITIMACY.

CHICAGO, Jan. 23, 1904.

To the Editor:—In answer to the inquiry of J. E. D. of Detroit (THE JOURNAL, Jan. 23, p. 256), I beg leave to state that the most satisfactory treatise on illegitimacy is the little book of Leffingwell (E. H. Colegrove, 65 Randolph St., Chicago. Price, $1.00.) He shows, much to the surprise of the casual observer, that illegitimacy prevails in certain sparsely settled, mountainous districts of Scotland to a greater extent than elsewhere in the world. His explanation, that the inhabitants are the descendants of pirates and that hereditary influence is the etiologic factor, has never been satisfactory to me. I have always maintained, and my views have been pretty generally upheld by sociologic students of experience, that there is a more likely explanation. The absence of prostitutes in these districts, the inadequate knowledge of sex relationship, which unfortunately is almost universal, and the misdirection, through faulty or deficient education, of the domination of the sexual instinct on the part of the male, are, to my mind, factors of chief importance in the consideration of illegitimacy.

DENSLOW LEWIS.

THE ETHICS OF REPORTING AN IMAGINARY OPERATION AS HAVING BEEN PERFORMED.

HUMBOLDT, TENN., Jan. 18, 1904.

To the Editor:—Is a physician justified, under any circumstances, in writing an article for a medical journal in which he asserts that he has performed an operation, giving technic and results, when in fact he has performed no such operation, but has only conceived the idea that the operation would be applicable to the condition stated? Please publish this with your reply in THE JOURNAL for the benefit of any who may be concerned. Yours in the interest of science and truth. SIDNEY THOMPSON, M.D.

ANSWER.—We do not know to what article our correspondent refers, but his question seems to be answered in the asking.

TRAINING SCHOOL FOR MALE NURSES.

DR. N. N. SALLUME, Toledo, Ohio, inquires where there is a hospital or other institution where male nurses are trained.

Marriages.

GIOVANNI B. BRUNO, M.D., to Miss Marie Lagorio, both of Chicago, January 18.

HENRY CLAY GEMMILL, JR., M.D., Indianapolis, to Miss Helen Bringhurst of Philadelphia, January 12.

HUGH C. BEAZLEY, M.D., Bowling Green, Ky., to Miss Carrie B. Redd of Hopkinsville, Ky., January 20.

SAMUEL L. EDWARDS, M.D., Memphis, Tenn., to Miss Lillian Urbansky, at St. Marys, Kan., January 6.

HOWARD DAVIS LEWIS, M.D., Baltimore, to Miss Katherine Gray Blackshire, at Baltimore, January 14.

U. S. GRANT SPARKS, M.D., to Miss Kate Garuch, both of Mantua, N. J., at Camden, N. J., December 19.

GEORGE ARCHIBALD HOGAN, M.D., Bessemer, Ala., to Miss Myra Clark Gaines of Northport, Ala., January 27.

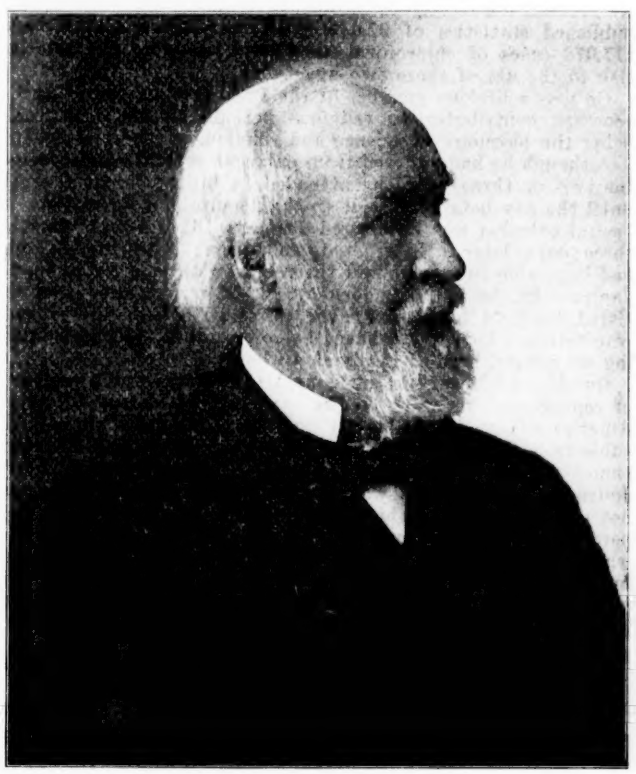
JAMES H. BANKS, M.D., Lincoln, Ill., to Miss Maude M. Wendell of New Holland, Ill., at Lincoln, January 13.

ROBERT W. COCHRAN, M.D., Madison, Ind., to Miss Leonora Livingstone Howard of Johnson City, Tenn., January 12.

Deaths.

EDMUND ANDREWS, M.D.

Dr. Edmund Andrews, scientist, pioneer in surgery and in medical education in the west, and student to the end of his life, died in Mercy Hospital, Chicago, January 22, aged 79.



EDMUND ANDREWS, M.D.

He was born in Putney, Vt., April 22, 1824, and there and in Rochester, N. Y., received his preliminary education. He was from the first devoted to botany and geology. At the age of 17 his family moved to central Michigan, and he entered the University of Michigan, Ann Arbor, where his work in mathematics and natural science was especially notable. He was also honored by being made president of his college literary society, and was graduated with the degree of B.A. in 1849.

He entered the office of Dr. Z. Pitcher, Detroit, in 1850, and attended lectures in the Medical Department of the University of Michigan. At the end of his first year he was made demonstrator of anatomy; received his degree in medicine in the following year, 1851, and was then made lecturer in comparative anatomy. By honesty, care and system he dispelled the common apprehension regarding dissections while occupying this

position. He received his degree of master of arts in 1852 from the university, and two years later was made professor of comparative anatomy. He was one of the founders of the Michigan State Medical Society, and in 1853 began the publication of the *Peninsular Journal of Medical and Collateral Sciences.*

In 1855 he was appointed demonstrator of anatomy in Rush Medical College, but resigned after one year and devoted himself to practice, especially to surgery. Soon after his arrival in Chicago he aided in founding the Chicago Academy of Science, and was its first president, serving several times in this capacity. A short time after this he, in connection with Dr. Horace Wardner, established a charity dispensary, and a private dissecting room, where he taught a class in anatomy. He was one of the founders of the Chicago Medical College, and was its first professor of surgery. This latter position he held actively or emeritus up to the time of his death. He was also surgeon to the Mercy Hospital. When the Civil War broke out he was made surgeon of the First Illinois Light Artillery, but after a year was obliged to resign by reason of illness incurred in the service. He was the first to make and keep complete medical records of the sick and wounded in war, and his records were accepted by the surgeon general and formed the basis on which records of that office have since been kept. He was a pioneer in practical antisepsis, and was the first man in the west to employ Lister's method after its exploitation.

He was for many years a member of the American Medical Association, Michigan State Medical Society, Illinois State Medical Society, the Chicago Medical Society, the American Association for the Advancement of Science, the Chicago Academy of Science, Wisconsin Academy of Science, etc. For a number of years he was a trustee of Northwestern University. He contributed largely to medical literature. He collected and published statistics of 92,815 cases of ether anesthesia and 117,078 cases of chloroform anesthesia, showing the relative risk in the use of these two agents.

He was a lifelong member of the Presbyterian church, and a constant contributor to religious periodicals, his chief topic being the harmony of science and religion.

Although he had suffered from enlarged prostate and cystitis for two or three years he attended to his professional work until the day before he went to the hospital for operation. A vesical calculus was discovered January 13, and was removed three days later. He reacted well from the operation, and had been able to move about the room for three days when, on January 22, he had a sudden attack of vertigo, and was assisted back to his bed by the nurse. He had embarrassed respiration, which was relieved by oxygen, but, nothwithstanding all efforts, he died in about an hour.

Outside of his work in medicine, Dr. Andrews was a geologist of repute, and his work on the early glacial history of North America has been very largely quoted. His papers on geologic subjects have been published in the Proceedings and Transactions of the Chicago Academy of Science and in Silliman's Journal. Dr. Andrews was one of America's great surgeons, not only by reason of his skill, but also because of his quick perception and adoption of improved methods. Dr. Andrews was married in 1850 to Miss Eliza Taylor of Detroit, who died in 1875; in 1877 he married her sister, Mrs. Frances M. Barrett, who survives him. He leaves two daughters and three sons, two of the latter, Drs. E. Wyllys Andrews and Frank T. Andrews, being of the medical profession.

Nels N. Glim, M.D. Hamline University, Minneapolis, 1898, a member of the American Medical Association, and secretary of the Ashland County (Wis.) Medical Society, died at Ashland, January 15, from general peritonitis following acute perforative peritonitis, for which operation was performed January 5.

William H. Ireland, M.D. University of Pennsylvania, Philadelphia, 1867, some-time president of the Camden city and county medical societies, and a life member of the state medical society, died at his home in Camden, N. J., from pneumonia, January 12, aged 60.

Jefferson Williamson, M.D. Cleveland Medical College, 1852, one of the founders of Wapello County Medical Society, died at his home in Ottumwa, Iowa, January 16, aged 76. The county society, at a special meeting, passed resolutions of eulogy and regret.

Henry Plummer, M.D. Medical College of Ohio, Cincinnati, 1861, died suddenly in his office in Harrodsburg, Ky., January 20, from heart disease. He had served as president of the Central Kentucky Medical Society and of the Mercer County Medical Society.

Pollock F. Hyatt, M.D., died at Jersey Shore, Pa., January 17, aged 68. During the Civil War he was surgeon of Carver Hospital, Washington, D. C., and for five years prior to the Spanish War he was United States consul at Santiago, Cuba.

Frederick Follett Comstock, M.D. Bellevue Hospital Medical College, New York, 1873, health officer of Ilion, N. Y., for several years, died at his home in that village, January 12, from Bright's disease, after an illness of six weeks, aged 54.

Alexander Douglas Bryden, M.D. Indiana, 1898, assistant surgeon, U. S. Army, in the Spanish-American War, of Honesdale, Pa., died at the home of his brother in Carbondale, Pa., January 13, from nephritis, after a long illness, aged 35.

Hugh Hendrixon, M.D. Cleveland Medical College, 1870, of Columbus, Ohio, a member of the American Medical Association, died at Grant Hospital in that city, January 18, from cancer of the stomach, aged 70.

Edmund S. Hanna, M.D. Jefferson Medical College, Philadelphia, 1853, for many years a practitioner of Pittsburg, Pa., died at his home in East Orange, N. J., from apoplexy, January 17, aged 76.

Benjamin G. Dysart, M.D. Jefferson Medical College, Philadelphia, 1859, formerly brigade surgeon in the Confederate service, died at his home in Paris, Mo., January 17, from pneumonia, aged 70.

Sydney Smith Thomas, M.D. Toronto University Medical College, 1868; Bellevue Hospital Medical College, N. Y., 1872, died at his home in St. Anne, Ill., January 20, from uremia, aged 66.

Samuel T. Purcell, M.D. Homeopathic Medical College of Missouri, St. Louis, 1866, died at his home in Glasgow, from hemorrhage of the lungs, January 7, after a short illness, aged 80.

Francis Woodley Harrell, M.D. University of Maryland School of Medicine, Baltimore, 1879, Baltimore, died in New York City, January 19, from double pneumonia, aged 44.

Schuyler C. Elliott, M.D. Homeopathic Hospital College, Cleveland, 1886, died at his home in Kansas City, Kan., from paralysis, after a short illness, January 14, aged 39.

John W. Martin, M.D. College of Physicians and Surgeons, Baltimore, 1890, died at his home in Unionport, Ohio, January 10, from tuberculosis, after a long illness, aged 40.

Royal H. Hardman, M.D. National Medical College, Washington, D. C., 1897, died suddenly at his home in White Earth, N. D., January 12, from heart disease, aged 36.

A. Tennyson Sanders, M.D. Medical College of Ohio, Cincinnati 1897, died, January 11, at his home in Leesburg, Ohio, from Bright's disease, after a lingering illness.

Robert E. Jenkins, M.D. Louisville Medical College, 1898, died at his home in Belmont, N. C., January 9, from typhoid fever, after an illness of two weeks, aged 28.

E. R. Manning, M.D. Missouri Medical College, St. Louis, 1897, local surgeon of the Texas Central Railway, died at his home in Stamford, Texas, January 14.

John H. Ginley, M.D. Homeopathic Hospital College, Cleveland, 1862, died at his home in Coopersville, Mich., January 18, after an illness of one week, aged 75.

Rachel A. Dickey, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1867, of Philadelphia, died in New London, Md., January 3, aged 79.

James Porter Henry, M.D. Transylvania University, Lexington, Ky., 1843, died at his home in Independence, Mo., January 13, after a short illness, aged 84.

John Frank Lyngar, M.D. Missouri Medical College, St. Louis, 1875, died at his home in Greenfield, Mo., January 14, from heart disease, aged 60.

George Perry Cook, M.D. New York, 1846, once assistant physician at Bloomingdale Asylum, died in Brattleboro, Vt., January 3, aged 83.

H. K. De Armond, M.D., of Huntersville, N. C., died at the home of his daughter in Mount Gilead, N. C., January 10, from paralysis, aged 82.

John H. Scally, M.D. College of Physicians and Surgeons, Baltimore, coroner of Baltimore County, died at Towson, January 21, aged 33.

Joseph Marshall Staunton, M.D. Geneva (N. Y.) Medical College, 1857, died at his home in Charleston, W. Va., from uremia, aged 84.

Lycurgus A. Dickson, M.D. Jefferson Medical College, Philadelphia, 1855, died at his home in Desha, Ark., January 19, from paralysis.

Harvey B. **Godfrey, M.D.** University of Minnesota, College of Medicine and Surgery, Minneapolis, 1902, of Black Duck, Minn., died recently.

Joseph C. **Ridings, M.D.** St. Louis Medical College, 1872, of Cairo, Mo., died in an epileptic seizure at Kansas City, Mo., January 15.

Ernest S. **Foster, M.D.** Washington University School of Medicine, Baltimore, 1869, died at his home in Louisburg, N. C., January 11.

Margaret G. **Coleman, M.D.** Penn Medical University, Philadelphia, 1858, died at her home in Williamsport, Pa., January 9, aged 82.

Henry C. **Ahlborn, M.D.** New York Homeopathic Medical College and Hospital, 1866, died at his home in Boston, January 9, aged 79.

Simeon Deming **Hart, M.D.** Ohio Medical College, Cincinnati, 1844, died at his home in Marietta, Ohio, January 21, aged 85.

Frederick **Kuithan, M.D.** University of Berlin, Germany, 1853, died, January 14, at his home in Nauvoo, Ill., aged 70.

Charles **P. White, M.D.** Howard University, Washington, D. C., 1898, died at his home in Richmond, Va., November 16.

Samuel **D. Coffin, M.D.** Miami Medical College, Cincinnati, died at his home in Whittier, Cal., December 25, aged 77.

Thomas **J. Ketchum, M.D.** Castleton (Vt.) Medical College, 1847, died recently at his home in Pittsford, Vt.

John **K. Patterson, M.D.** Jefferson Medical College, 1868, died at his home in Philadelphia, January 14.

John **M. Kauffman, M.D.,** retired, died suddenly, January 11, at his home in Winchester, Va., aged 70.

Perry **McElvain, M.D.** Illinois, 1877, died at his home in Alto Pass, Ill., Nov. 13, 1903.

Death Abroad.

F. Jolly, M.D., director of the clinic for nervous and mental affections at Berlin, died there, January 4, aged 59. Death was due to perforation of an aneurism into the pericardium, in the midst of apparent health.

Miscellany.

Von Behring's Research on Milk for Infants and Prevention of Tuberculosis: Correction.—In the abstract on page 277 with the above title in THE JOURNAL of Jan. 23, 1904, the reference to previous communications from von Behring should have read: See previous articles in THE JOURNAL, xl, pages 1178 and 1266, and xli, pages 814 and 994.

Some Effects of Tobacco.—J. A. Henton White reports several cases in which the poison from smoking produced symptoms which were concentrated on either the respiratory, the cardiac, or the alimentary system. These exaggerated symptoms all occur in a modified form in seasoned and seasoning smokers who exceed their dose. They also all point to there being such a condition as hereditary incapacity to smoke. In subjects whose alimentary canal is upset, the pain is described as being of a peculiar grinding character. Neuralgia of the thoracic and humeral varieties is another symptom, produced especially by Havana cigars, whether these symptoms are due to a neuritis or a more central affection is disputed—possibly both may occur together or separately.—*Birmingham Medical Review.*

Cataract from Iodin Intoxication.—Dr. G. Corda of Pisa describes, in the *Annali di Ottalmologia,* xxxii, 5-6, 1903, a case of intoxication from the use of potassium iodid taken on account of a tendency to obesity. The patient was a mechanic, 43 years old, always robust, and the amount ingested in the course of seven days was only 1.5 gm. The third day he noticed pains in the soles of the feet, extending into the legs, and by the seventh day he was affected with lachrymation, photophobia and spasmodic closure of the lids, with a cataract-like formation in both eyes, like a semi-transparent disc in the center, which explained the dimness of vision accompanying the blepharospasm. On suspension of the drug the symptoms rapidly subsided and vision was normal again by the end of a week or two. [In the case of cataract formation after the use of naphthalin, reported in THE JOURNAL, xxxix, p. 926, 1902, the zonular cataract did not subside after the suspension of the drug, but persisted with vision much reduced.—ED.]

Dangers from Lightning.—The *Gazette Méd. de Paris,* in an editorial, October 27, discusses the loss of life from lightning in recent years and prophylactic measures. The annoyance from the rain during a thunder storm is a concrete evil, while the danger from lightning is problematic, consequently individuals will probably continue to seek shelter under trees in the future as in the past, notwithstanding the warnings of the profession. But at least they can scatter and not all huddle under one tree. The human body is a good conductor for electricity, and this attraction, plus that of the tree, is increased by the mass of bodies grouped at one spot. Another point to be borne in mind is to refrain from bringing farming implements, guns, swords, etc., under the same tree under which the bearer is sheltered. In any event they should not be retained in the hand. It is a familiar experience that four-footed animals are injured more severely by lightning as a rule than bipeds, human or others.

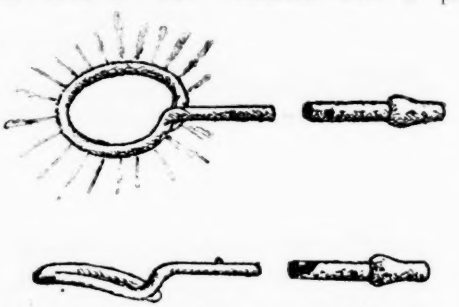
Transient, Relative Aortic Insufficiency.—Popoff has observed a number of cases of insufficiency of the aortic valves accompanied by weak and accelerated heart action with a tendency to aneurismatic dilatation of the aorta, in which the symptoms subsided and even entirely disappeared as soon as the heart action was regulated and the dilatation of the aorta diminished. In the *St. Petersb. Med. Woch.,* xxvii, 45-7, he says the insufficiency may be of the valves or of the ostium, and may be transient or chronic, the former the precursor of the latter unless cured. It is extremely important to be able to differentiate the transient form and institute proper treatment. The inconstancy and changeability of the sounds must not mislead the clinician suggesting a pericarditis or other affection. Treatment must be directed to the underlying arteriosclerosis and the cure of the tendency to aneurismatic dilatation, as also of the conditions which have entailed extra work on the heart, bronchial affections causing severe coughing, etc., gastrointestinal autointoxication, constipation, leading to upward pressure of the diaphragm and efforts in defecation, and all factors that bring over-fatigue of mind or body, or cause disturbances and weakening of the heart action, congestion in the aorta, etc.

Non-Surgical Treatment of Rupture of the Uterus.—Privat docent D. Popoff advocates leaving to Nature the task of repairing the rupture and describes two cases treated on this principle. The necessity of transporting the woman to a hospital is thus avoided. Both his patients were about 32 years old and working women, multiparæ. The rupture was complete in each case and was treated by immobilizing the uterus by pressure on the abdomen, forcing it down and thus favoring healing of the rupture. In one case iodoform gauze was inserted in the vagina and in the other a strip was worked up behind the point of the rupture to prevent prolapse of the intestines and omentum, with care not to allow any of the gauze to interpose between the lips of the wound. In order to avoid manipulations in the abdomen he was obliged to perform decapitation of the fetus in one case. The patients were dismissed quite restored to health, the twenty-ninth and thirty-first days. The healing proceeded without fever and without any therapeutic measures in the first case; in the other there was slight temperature the seventh day only, and a few hot douches were given on account of a plastic exudate noted on the tenth day. Klien states that the mortality was only 25 per cent. in 12 cases of rupture in the posterior wall which he has collected, while it was 60 per cent. in 15 cases of rupture of the anterior wall, 49 per cent. in 35 cases of lateral, and 40 per cent. in 5 of almost circular rupture. The length of time that has elapsed before treatment is commenced is an important factor for the prognosis of the cases operated on, but this can usually be disregarded in case of non-operative treatment. If the operation is undertaken in the first two hours the results are most favorable; after this period the mortality is twice or thrice as high. His communication in the *Allg. Med. Ct.-Ztg.,* lxxii, p. 440, is a careful study of the entire subject.

Improved Technic of Extracting Foreign Bodies from the Brain.—Dr. G. Holzknecht of Vienna, the expert for medicolegal *x*-ray cases, announced at his local medical society, June 19, that he has devised a method by means of which a foreign body in the brain can be extracted as easily as a pebble can be taken out of a glass of water. He remarks that fifty different methods of locating foreign bodies in the brain have been published, but none to date have proved infallible. By his method the patient is examined with two Roentgen tubes, one under his head as he lies on the operating table, and one at the side. After the foreign body has been carefully located with the first tube a small flap of periosteum and bone is cut and raised, care being taken to have this flap made at the most accessible point where such a flap and the following procedures will do the least injury. The patient is then arranged so that the shadow of the foreign body falls in the exact center of the flap. A pair of special forceps are then mounted in the "harpoon forceps" and applied to the skull in such a way that the shadow of the forceps falls in the center of the flap as a mere point, thus coinciding with the shadow of the foreign body. The instrument is then inserted into the brain on this same axis, to the point where the foreign body is supposed to lie, its progress controlled by the shadows cast by the second Roentgen tube, which is lighted up for the purpose. He has found that with a good technic it is possible to see in this way shot or fragments as small as 1 mm. in diameter, and with a little practice, to feel the contact of the forceps with the foreign body. The instrument is inserted on the path which the foreign body must follow in being extracted, and if the foreign body is not wider than the diameter of the narrow forceps no further damage is done.

Silicosis.—Dr. George T. McWhorter, Riverton, Ala., delivered an address before the faculty and students of the Medical Department of the University of Alabama, at Mobile. The Mobile County Medical Society was also invited, and many members attended. The subject was "Silicosis," and the paper described an epidemic of the disease among the workers in a factory near Riverton, where pure, white silica is reduced to an impalpable powder for use in the arts, especially for the glazing of fine porcelain. Every object within the building and within a large radius outside was covered with the white dust. Trees, shrubbery and grass seemed covered with snow. From a tall chimney intended to carry the dust away a cloud arose that resembled white steam, and trailed away into the distance, depositing the microscopic, gritty particles in every direction at the veering of the wind. In this dusty atmosphere twenty-six working people were employed. Within two years sixteen were dead and two more in bad health, with symptoms similar to those of the fatal cases. The history of the remaining eight is unknown. Dr. McWhorter saw ten of the fatal cases, and was credibly informed that the others were similarly affected. He stated that there was no necessity for the murderous process that had proved so fatal at that place, as there was a wet process which absolutely removes all danger. Silica is not poisonous in any sense of the term, but its particles, however small, are too irritating to delicate mucous membranes for permanent contact to be wholesome. Tuberculosis was not present in any of these cases, though the irritated bronchial membranes would have provided a favorable nidus for the tubercle bacilli had they been present in the atmosphere. Riverton is not a town, but merely a postoffice, with a few stores and residences at long intervals, and its other conditions aid in rendering a tubercle infected atmosphere almost impossible. There were no night sweats or hectic fevers, no hemorrhages or other symptoms of tuberculosis.

Continuous Irrigator for Treatment of Ophthalmia Neonatorum.—Prof. A. Galiani of Salerno, Italy, thinks that the ravages of this affection are due in many instances to the inadequate treatment. He believes that the eye should be cleansed every fifteen to twenty minutes in the first acute stage, and he has invented a little apparatus for the purpose. As seen by the illustration it is a loop of silver tubing, perforated around the edge and shaped like the edge of an artificial eye to fit deep into the conjunctival culs-de-sac. It is easily inserted into the eye and the swollen lids hold it firm. A rubber bulb is filled with physiologic salt solution and the connecting tube attached to the projecting end of the silver tube. By compressing the bulb the fluid is all forced out into the eye. It escapes where the lids are slightly lifted by the entering tube. The rubber tube and bulb are then removed and the silver tube left in place all day, the irrigations being repeated every fifteen to twenty minutes. A bayonet catch fastens the rubber tube and the parts together. Every two hours he substitutes a weak solution of phenic acid for the salt solution. The presence of the tube in the eye does not cause any irritation and does not interfere with external application of tepid compresses. In the evening the silver tube is taken out and sterilized by boiling. After two or three days the swelling of the lids subsides, the secretion is materially diminished and the infant commences to open its eyes. The tube is then discarded and 2 per cent.



silver nitrate instilled morning and night. The use of this continuous irrigator will certainly prevent damage of the cornea if applied in time, but if first seen too late the irrigator should be used until the secretion has nearly entirely subsided. He concludes his description of the apparatus in the *Annali di Ottalmologia*, xxxii, 7-8, 1903, by recommending it particularly for diplococcus conjunctivitis with lesions of the cornea.

The Painful-Point Theory and Treatment of Nervous Gastro-Intestinal Disturbances.—Dr. Cornelius of Meiningen proclaims that in every case of purely nervous gastro-intestinal disturbances it is possible to discover one or more peripheral points which are painful on pressure and which explain the syndrome observed. He has been able to cure them by massage of these painful points, and also to induce the disturbances by manipulation of the painful points during an interval of calm. Pressure on these painful points may induce a nervous diarrhea in certain subjects, hemorrhage from hemorrhoids, or severe gastro-intestinal disturbance. In treatment he seeks for these painful points in the interspaces and over the abdomen, and when found he massages and manipulates them until they cease to be painful, when the troubles they have been causing will also disappear. He differentiates the painful point from an inflammatory process by the response to the application of cold which soothes the latter but increases the irritation in the purely nervous cases. Cornelius read a summary of his views at the last Naturforscher Congress, and his communication is published in full in the *Klinisch-therap. Wochft.*, Nos. 35 and 41, 1903. He has established seven laws that govern these painful points, including the law that when the pain from a point radiates in a certain direction another painful point will be discovered at the end of the radiation. Also that mechanical treatment of a painful point will invariably banish its sensitiveness and with it the pain which emanates from it. The paroxysms of pain which manifest themselves at these painful points may be the result of any one of a number of stimuli originating within or out of the organism and not necessarily a pathologic irritation. He attributes the painful points to some induration or cicatrix left by some external or internal affection, which injures or compresses the nerve. The nervous strain of our civilization tells in time on these points of lessened resistance. Massage at these points restores them temporarily or permanently to normal and they no longer interrupt the course of the nerve current. Treatment should aim to soothe the over-excited nervous system as a whole and to mechanically smooth out the "knots" in the nerve.

Book Notices.

THE PRACTICE OF OBSTETRICS. Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in Cornell University Medical College. With 1,221 Illustrations, Many in Colors. Cloth. Pp. 111. Price, $6. Philadelphia: P. Blakiston's Son & Co. 1903.

This book is the most pretentious work on obstetrics issued in English in recent years; in many respects it is encyclopedic in character. From Edgar's long experience as a teacher, and his originality in producing many of our best models and devices for practical obstetric pedagogy, we might expect to find much of his inventive genius exemplified in his book. Its scope is broad; the refinement of classification under appropriate headings so extensive that it may well serve as an invaluable reference volume for the practitioner. We feel that so much is embodied within its pages that it is not so suitable for student reading as other smaller text-books on the same subject. The volume is divided into ten parts and an appendix; each part is divided into numerous subdivisions, which again are divided by many subheadings. The subheadings offer a ready means of reference, and in nearly all instances unquestionably enhance the clearness of the subjects. We would call attention to certain topics, however, which are, to our mind, injuriously affected by the classification before us. In the part devoted to "Physiological Labor" we find "Occiput Posterior" discussed under the subdivision of "Vertex Presentations"; under "Pathological Labor," subdivision "Faulty Position," we find "Persistent Occiput Posterior"; again, in the part devoted to "Pathological Labor," under the caption of "Faulty Attitude," we find the discussion of brow and face presentations, and Naegele and Litzmann's obliquities; under "Fetal Dystocia from Faulty Position," we find "Persistent Mentoposterior Position." We think this arrangement implies too strongly that the several forms are distinct obstetric entities, while in reality they are but aberrancies from the normal mechanism for the several presentations. This interferes considerably with the sequence of thought. We believe that a complete exposition of the subjects of occiput posterior, brow, face, etc., more lucidly and more comprehensively could be included under their appropriate headings. In the same manner we feel that perineal lacerations should receive their operative consideration in direct sequence to the discussions of their cause and prophylaxis. While we dissent to the arrangement in parts, too high praise can not be accorded to most of the chapters—the handling of the subjects is judicious, practical, and with the conservatism needed in a work for the general practitioner and student. We can not too strongly commend the careful scientific discussions of the following subjects, which are yet eminently practical: the diagnosis of pregnancy, the calculation of the probable date of confinement when data are wanting, which is germane to the sections dealing with fetometry. The section on cephalometry includes the methods of Ahlfeld, Perret, Dubois, Müller, and the use of the Roentgen ray, which are adequately stated, and, so far as known, have not collectively appeared in American text-books on obstetrics. The investigation of the pregnant and parturient woman by palpation, mensuration, auscultation and inspection is fully given. The complete elucidation of the subject of pelvimetry very appropriately is given under the routine examination of the pregnant—to relegate this most important subject to the consideration of contracted pelves implies that such measurements are essential only in dystocic conditions, whereas their true value may be adduced by the obstetrician only when he uses pelvimetry as a routine. The discussion of obstetric surgery is fully represented by all the modern operative procedures; the technic for each operation is fully described. The book is replete with illustrations, most of which are new and truly illustrative of the text. Many of the cuts are accompanied by a schematic drawing which depicts in detail the companion picture. These are interspersed freely through the volume, but are especially instructive in the purely clinic illustrations, as are also those showing the details of the mechanisms of labor. A very few cuts might well be dispensed with in succeeding editions, e. g., pictures of the containers of chlorid of lime and baking soda; the representation of an ordinary glass catheter which well could be replaced with a picture of the details of an aseptic catheterization; *en passant*, it would be well to call attention to the grave danger of the use of a glass catheter during labor. As this book is a work pre-eminently for collateral reading, its value would be greatly enhanced if a full reference list of the literature were appended in subsequent editions. The work of the illustrator has been unusually good, as is the typographical make-up; the binding, however, is wretchedly poor, a serious fault in a reference book, which this is supposed to be.

AROMATICI E NERVINI. Nell'Aliemtazione. I Condimenti, L'alcool (Vino, Birra, Liquori, Rosolli, ecc.); Il Caffè; Il Thè; Il Guarana; La Noce Di Kola, ecc. Sull'Uso Del Tabacco da Fuma e da Fiuto. By Dott. Adriano Valenti, Dell'Instituto Farmacologia Della R. Universita di Pavia. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1904.

This is another of the convenient little Hoepli manuals; it appears to cover its subject of neurotic drugs and beverages fairly well. The larger portion of it is given to the subject of alcohol, on which the author's opinions are conservative. He remarks that it is not a direct food, but is a systemic poison, but that in its milder diluted forms it is of use. He would, however, forbid or restrict its use by women and youths. Other substances are also treated in more or less detail, and the work reviews the physiology of aromatic and nervine drugs in a general way. To one familiar with Italian, it will be a convenient little reference work. A curious fact is that the author has apparently not got hold of Atwater's researches, though he quotes Chittenden, and the book, therefore, is not absolutely up to date, but in other respects it seems to be a satisfactory treatise for its compass.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, C.B., M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. Burghard, M.D., M.S. (London), F.R.C.S., Teacher of Practical Surgery in King's College, London. In Seven Volumes. Volume VII. The Treatment of the Surgical Affections of the Rectum, the Liver, Pancreas and Spleen, the Genito-urinary Organs, the Breast and the Thorax. Cloth. Pp. 559. Price, $5.75 net. Philadelphia and New York: Lea Brothers & Co. 1903.

Volume VII completes a very extensive work, previous volumes of which have already been mentioned in these columns. This volume, whose field is outlined above, is one of the best of the series. It follows the general plan of dealing chiefly with the subject of treatment and the methods described are those which the experience of the authors approves. Special attention is given to details of after-treatment. A complete index of the work would have been a very desirable addition. As it is, one must consult the index of each volume until the subject sought is found. The work abounds in practical matter, and is one of which the authors may well feel proud.

A COMPEND OF PATHOLOGY, General and Special. A Student's Manual in One Volume. By Alfred Edward Thayer, M.D., Professor of Pathology, University of Texas. Second Edition, Containing 131 Illustrations. Leather. Pp. 711. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1903.

This work is a second edition of two previous compends on pathology by the author, and includes a new chapter on the nervous system and several additional illustrations; a general revision has also been made. The treatment of the subjects is, naturally, brief, but the illustrations are numerous and the text is generally good. In a few instances, however, the definitions are rather brief, and might have been bettered in some respects; for instance, the author speaks of dementia paralytica as a "peculiar cortical lesion associated with gradual loss of memory," which gives a somewhat erroneous idea of the subject. Taken altogether, the statements are fairly clear. The make-up of the work, with its flexible binding and gilt edges, is excellent.

THE FIFTH ANNUAL REPORT OF THE INDIANA STATE BOARD OF MEDICAL REGISTRATION AND EXAMINATION for the Year Ending Dec. 31, 1902. Cloth. Pp. 270. Indianapolis: Wm. B. Burford. 1903.

The Indiana board has issued its official register of physicians, together with its state laws and a summary of the laws of other states. The book is well arranged, and seems to contain all the information that can be asked on the sub-

jects. It is a state document, published under authority, and may, therefore, be considered official. It has evidently been compiled with great care, and is a valuable reference work not only for Indiana physicians, but also for medical journals and others who have to do with the questions of medical registration and education outside of the state.

HOW TO ATTRACT AND HOLD AN AUDIENCE, A Popular Treatise on the Nature, Preparation and Delivery of Public Discourse. By J. Berg Esenwein, A.M., Lit. D., Professor of the English Language and Literature in the Pennsylvania Military College. Cloth. Pp. 272. Price, $1.00. New York: Hinds & Noble.

The art of oratory and public speaking is one which the most of us think we can acquire without special care or training. How much we are mistaken in this many of us have to realize when we come to the actual trial. This little work aims to be suggestive, and the advice given is for the most part safe and judicious. The work will be of value to anyone who intends to engage in public speaking either as an amateur or in a professional way, and especially if only to meet an occasional call.

DOCTOR JOSEPH LEIDY; A Portrait. Etched by James S. King, Newark, N. J. Engraved Surface 13½x16 Inches. Limited Edition of 150 Copies. Printed on Imperial Japan Vellum Paper and Signed by the Artist. Price, $15. Philadelphia: William J. Campbell.

The above is a very excellent reproduction of a portrait etched by King, and is well worthy of a place in any physician's office. The portrait represents the highest type of such work. Dr. Leidy was one of the leading figures among medical men of this country during the early and middle years of the nineteenth century, and left a name that was revered by all who knew him or his work, and such will be glad of an opportunity to obtain such an excellent portrait of him as is here presented.

NURSES' GUIDE TO SURGICAL BANDAGING AND DRESSINGS. By William Johnson Smith, F.R.C.S., Principal Medical Officer, Seamen's Hospital, Greenwich. Cloth. Pp. 167. Price, $0.75. Philadelphia. J. B. Lippincott Co. 1903.

The size of this book is such that it can be put in the dress pocket (if nurses have such), but with the size of print it contains a large amount of information, much of which seems likely to be useful and valuable to nurses. The illustrations are instructive and the text is clear. Some of the information seems rather superfluous.

THE FOUR EPOCHS OF WOMAN'S LIFE. Maidenhood, Marriage, Maternity, Menopause. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," Fellow of the New York Academy of Medicine. With an Introductory Note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Cloth. Pp. 247. Price, $1.50 net. Philadelphia, New York, London: W. A. Saunders & Co. 1903.

Dr. Galbraith has fairly satisfactorily treated this difficult subject as it may be described advantageously to lay readers. Her advice is practical and the book is to be recommended.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Jan. 23, 1904:

McCulloch, C. C., Jr., Reynolds, Fred. P., Woodson, Robt. S., Hallock, H. M., Newgarden, Geo. J., Straub, Paul F., Stark, Alex. N., Lynch, Charles, and Kulp, John S., captains and asst.-surgeons, ordered to report in person to Major Wm. H. Arthur, surgeon, president of examining board for promotion, Army Medical Museum building, Washington, D. C., about March 14, 1904, for examination for promotion.

Chamberlain, W. P., asst.-surgeon, relieved from duty at Cabana Barracks, on withdrawal of troops from Cuba, and ordered to Manila, P. I., for duty.

Bevans, Jas. L., asst.-surgeon, relieved from duty at Morro Castle, Santiago, Cuba, on withdrawal of troops and ordered to Fort Barrancas, Fla., for duty.

Kirby-Smith, R. M., asst.-surgeon, relieved from duty at Fort Barrancas, Fla., and ordered to Manila, P. I., for duty.

Hansell, H. S., asst.-surgeon, relieved from duty at Fort Monroe, Va., and ordered to Manila, P. I., for duty.

Shockley, M. A. W., asst.-surgeon, having reported at San Francisco, en route to Manila, P. I., is assigned to temporary duty at Post Hospital, Presidio of San Francisco.

Stiles, Henry R., asst.-surgeon, order relieving him from duty in the Division of the Philippines, is revoked.

Woodson, Robert S., asst.-surgeon, granted two months' leave of absence about February 1.

Patton, I. W., asst.-surgeon, granted thirty days' leave of absence.

Enders, William J., contract surgeon, has been granted two days' leave on completion of duty at Fort Delaware, Del., before proceeding to his new station, Fort Morgan, Ala.

Baird, William T., contract surgeon, has been granted two months' leave of absence from Fort Bliss, Texas, to take effect about February 1.

Navy Changes.

Changes in the medical corps of the Navy, week ending January 23:

Moore, A. M., surgeon, retired, detached from the Naval Recruiting Station, Chicago, and ordered home.

Wilson, G. B., surgeon, detached from the *Wabash* and ordered to the Naval Torpedo Station, Newport, and to additional duty in attendance on naval and marine officers.

Gardner, J. E., surgeon, ordered to the *Wabash*.

Lumsden, G. P., surgeon, detached from the Naval Torpedo Station and ordered to the Naval Recruiting and Marine Recruiting Stations, Chicago.

Wentworth, A. R., surgeon, detached from the *Albany* and ordered to the *Solace*.

Crandall, R. P., surgeon, detached from the *Wisconsin* and ordered to the *Oregon*.

Guest, M. S., P. A. surgeon, detached from the *Oregon* and ordered to the *Albany*.

Webb, U. R., asst.-surgeon, detached from the *Annapolis* and ordered to the Naval Station, Cavite, P. I.

Bishop, L. W., asst.-surgeon, detached from the Naval Hospital, Yokohama, Japan, and ordered to the *Annapolis*.

McClanahan, R. K., asst.-surgeon, ordered to the Asiatic Station via steamer sailing from San Francisco February 1.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Jan. 22, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, Jan. 3-10, 3 cases.
District of Columbia: Washington, Jan. 9-16, 1 case.
Georgia: Darien, Jan. 15, 2 cases.
Illinois: Jan. 9-16, Chicago, 5 cases; Danville, 7 cases; Freeport, 1 case, imported.
Indiana: Evansville, Jan. 9-16, 4 cases.
Massachusetts: Lawrence, Jan. 9-16, 1 case.
Michigan: Grand Rapids, Jan. 9-16, 1 case.
New Hampshire: Nashua, Jan. 9-16, 1 case.
New Jersey: Trenton, Jan. 9-16, 7 cases.
Ohio: Jan. 8-15, Cincinnati, 3 cases; Cleveland, 1 case; Dayton, Jan. 9-16, 1 case.
Pennsylvania: Jan. 9-16, Johnstown, 1 case; Philadelphia, 58 cases, 24 deaths; Pittsburg, 8 cases, 3 deaths; Reading, Dec. 11-18, 1 case; Williamsport, Jan. 2-16, 2 cases, 1 death.
South Carolina: Charleston, Jan. 9-16, 4 cases.
Tennessee: Jan. 9-16, Memphis, 19 cases; Nashville, 2 cases.
Wisconsin: Milwaukee, Jan. 9-16, 34 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Dec. 26-Jan. 2, 6 cases, 1 death.
Brazil: Pernambuco, Nov. 15-30, 33 deaths; Rio de Janeiro, Dec. 6-20, 124 cases, 63 deaths.
Canada: New Brunswick, McAdam, Jan. 9, 1 case.
Great Britain: Dec. 26-Jan. 2, Birmingham, 1 case; Edinburgh, 3 cases; London, 4 cases; Manchester, 3 cases; Newcastle-on-Tyne, 1 case; Bradford, Nov. 21-Dec. 5, 1 case; Glasgow, Dec. 27-Jan. 8, 92 cases, 9 deaths.
Netherlands: Amsterdam, Jan. 2-9, 4 cases.
Russia: Moscow, Dec. 5-12, 1 death; St. Petersburg, Dec. 12-26, 58 cases, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Dec. 6-20, 1 case, 1 death.
Jamaica: Kingston, Dec. 26-Jan. 2, 1 case, 1 death.
Panama: Panama, Jan. 2-10, 1 case, 1 death.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Dec. 6-20, 38 cases, 28 deaths.
India: Calcutta, Dec. 12-19, 15 deaths.

CHOLERA.

India: Calcutta, Dec. 12-19, 28 cases.
Turkey in Asia: Kerbela, Dec. 12, 50 cases daily.

Medical Organization.

Florida.

DUVAL COUNTY MEDICAL SOCIETY.—At the recent annual meeting, this society reorganized on the standard plan, and elected the following officers: Dr. Robert H. McGuiness, president; Dr. Edward N. Liell, vice-president, and Dr. Jay H. Durkee, secretary and treasurer, all of Jacksonville.

Illinois.

OTTAWA (LA SALLE COUNTY) MEDICAL SOCIETY.—This society reorganized, at its annual meeting, January 17, on the standard plan, and elected the following officers: Dr. Edmund W. Weis, president; Dr. James N. Downs, vice-president, and Dr. William A. Pike, secretary.

Kansas.

CRAWFORD COUNTY MEDICAL SOCIETY.—This society was organized on the standard plan at Pittsburg, January 7, with an

initial membership of 25. The following officers were elected: President, Dr. E. Orlando Sloan, Pittsburg; vice-president, Dr. Andrew J. Dodds, Fleming; secretary, Dr. Hugh B. Caffey, Pittsburg, and treasurer, Dr. Asbury C. Graves, Pittsburg.

Maryland.

PROGRESS.—County medical societies in affiliation with the Medical and Chirurgical Faculty of Maryland, which is the state society, have been formed in all but four of the counties. It is proposed to complete very shortly the work in these counties.

Mississippi.

JONES COUNTY MEDICAL ASSOCIATION.—Physicians of the county met at Ellisville and organized this association, with the following officers: President, Dr. Sidney O. Smith, Ellisville; vice-president, Dr. Henry G. McCormick, Laurel, and secretary and treasurer, Dr. Troy M. Sexton, Laurel.

South Dakota.

SOUTH DAKOTA (NINTH DISTRICT) MEDICAL SOCIETY.—The physicians of the Black Hills district of Western South Dakota met at Lead, January 18, and organized on the standard plan, with the following officers: Dr. Adelbert H. Bowman, Deadwood, president; Dr. Charles W. Hargens, Hot Springs, vice-president; Dr. Alfred G. Allen, Deadwood, secretary; Dr. Frank S. Howe, Deadwood, treasurer, and Drs. G. Hayward Coburn, Deadwood, William W. Torrence, Deadwood, and John W. Freeman, Lead, censors.

Society Proceedings.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Jan. 20, 1904.

The President, Dr. R. B. Preble, in the Chair.

SYMPOSIUM ON DIETETICS.

The Dietetics of Atonic Dilatation of the Stomach.

DR. FENTON B. TURCK read this paper, in which he divided the mechanical work of the stomach into (1) distention with food; (2) expulsion, and (3) relaxation. He illustrated how increased tension or resistance, under some circumstances, causes atony and dilatation as the result of prolonged overwork and exhaustion of the gastric muscle, etc. In determining the exact regimen of dietetics in atonic dilatation, all symptoms and conditions must be subordinated to the one central indication, namely, the restoration of the exhausted gastric muscle; this effort is not only for the nutrition of the patient, but for the prevention of bacterial growth and the resulting toxins which produce many of the grave symptoms. It may be necessary to lessen the total amount of food for a period, and undernourish the patient, thus giving rest to the diseased organ at the expense of the whole organism. The gain here is twofold: First, food is better digested, and, second, it is not robbed of its nutritive value by bacterial growth.

Theoretically, a liquid diet is most advantageous; practically, finely divided solid food is best, properly prepared, with appropriate amount of liquid, sufficient to aid the stomach to macerate the mass and inject it into the intestines.

In connection with diet, lavage is often of value, as are also galvanic and faradic electricity, general baths, exercise and drugs.

Diet in Hyperchlorhydria.

DR. B. W. SIPPY, after describing the condition and its symptoms said that in the treatment of the condition diet is all-important; but etiology must be taken into account in each case. The following causes were mentioned: Hasty eating, improperly prepared food, overeating, certain ill-defined disorders of the nervous system, nervous shock, worry, fatigue, ulcer, alcohol and tobacco.

Fortunately, by close attention to diet alone most cases may be satisfactorily treated. The diet should fulfill the following indications: First, mechanical, chemical and thermal irritation of sensory and secretory nerves of the stomach by food and drink must be reduced to the minimum. Second, food should contain a liberal quantity of albumin to combine with the excessive hydrochloric acid. Third, the diet must be sufficiently nourishing. Fulfillment of indications is simple. All foods should be taken in a state of fine subdivision, and great care given to thorough mastication. Meat should be scraped or finely teased apart. Potatoes and all vegetables should be given in as near purée form as possible. Pickles, potato salad, fried potatoes, coarse nuts, radishes and similar coarse articles; also coffee, spices, sharp condiments, mustard, pepper, vinegar, acids and alcoholic drinks; also hot and cold food and drink should be avoided. The diet should be a mixed one. In the beginning of the treatment a liberal quantity of albumin in the form of lean meat should be given, because it is nonirritating and combines a maximum quantity of hydrochloric acid. Fat in the form of butter and cream is well tolerated, and tends to reduce the quantity of acid secreted. Because the excessive acidity quickly inhibits the action of the ptyalin, the starches should be restricted moderately at first or given in dextrinated form, as zweibach or toast. The following plan may be adopted in most cases with success: For a man weighing 160 pounds, during the first week or ten days one-third pound of rare steak, well cooked, veal, mutton, lamb, chicken, or turkey; sixty grams of toast or zweibach, a glass of milk and cream, equal parts; an ounce of butter, and, if desired, a soft egg or a hard-boiled egg grated for each of the three meals a day. If constipation is present, stewed apples, prunes or figs may be added to the diet. As a rule, little discomfort aside from a slight fullness is experienced. A powder of calcined magnesia and sodium bicarbonate, equal parts, 3ss, may be given after meals, at the time discomfort appears. A gain of two and three pounds will usually be recorded during the first week. The diet is then enlarged. Rice, oatmeal, well-cooked vegetable purée, stale bread may gradually be substituted for toast, and after four or five weeks a normal diet may be resumed. The patient should be instructed to avoid certain-named articles, and at the first intimation of an attack the restricted diet should be resumed for a few days.

Dietetics in Diabetes.

DR. A. C. CROFTAN'S paper on this subject will appear in THE JOURNAL.

Dietetics in Bright's Disease.

DR. ARTHUR R. ELLIOTT confined his discussion to a consideration of the most important recent advances in this field of research. Among substances excreted with difficulty in nephritis are urea, inorganic sulphates, creatinin, urine pigments, hippuric acid, phosphates and, under certain circumstances, water. He therefore excludes, on account of urea and inorganic sulphates which they contain, all proteid foods over and above the amount necessary for purposes of systemic nutrition; on account of creatinin, meat extracts and broths; on account of urine pigments, foods containing hemoglobin. On account of phosphates, he advises that calcium carbonate be given in medicinal doses several times daily, when the patient is taking milk freely, in order to arrest the phosphoric acid in the bowel, when it remains in combination with calcium. On account of the hippuric acid which they contain, he excludes certain green vegetables, cranberries and fruits containing kernals (prunes, plums, etc.).

On account of uric acid and alloxin bodies, he excludes all glandular organs used as foods, i. e., kidneys, liver, sweetbreads; also coffee and all malt beverages. Alcohol is also forbidden, save for medicinal purposes.

Milk still remains the staple article of diet in acute nephritis. The more nearly the disease approximates the acute form, the more exclusively should milk be used as the chief source of proteids. Exception is taken to exclusive milk diet in acute nephritis, owing to the poverty in iron, and the large quantity (three to four liters) necessary to furnish the nutritive calories needful for systemic purposes. It is advised, therefore, to enlarge the milk regimen by the addition of simple farinaceous foods and modify the milk by the addition of sterile cream in the proportion of one to four of milk. Of this mixture, one and one-half to one and three-quarters liters a day is allowed the patients with acute nephritis. As convalescence progresses, the diet is gradually extended. Full

normal diet should not be permitted until all signs of nephritis have disappeared in the urine. Exclusive milk diet is inapplicable to the treatment of chronic nephritis, owing to the nutritive deficiencies and unfavorable influence on pulse tension. During the stage of dropsy in acute nephritis water is one of the substances excreted with difficulty by the kidneys. As the case improves, the fluids may be increased.

In chronic interstitial nephritis the vegetarianism of some clinicians is to be condemned, on account of its bulk, nutritive deficiencies, and high content of water. Meats are a necessary part of the diet in this disease, and it is a matter of indifference whether white or red meat is taken. We must, nevertheless, strictly confine the amount of proteid food within certain fixed limits, corresponding to 100 grams of albumin. It should never be forgotten that every patient with interstitial nephritis also has heart disease, and that high tension and cardiac failure are constantly menacing elements. Consequently the simple rules of cardiac hygiene, of which moderate sized meals and limitation of fluids are among the most important, must be enforced.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Herpes Zoster.

Brodier, according to an abstract in *N. Y. and Phila. Med. Jour.*, recommends the following general and local treatment of herpes zoster: The eruption should be protected from friction by means of ointments, powders or alcohol dressings. The affected areas may be painted with picric acid or silver nitrate solutions. As an ointment to relieve the pain and to act as a protective, one of the following combinations is recommended:

℞. Acidi borici ..... gr. xv 1
Pulv. amyli
Zinci oxidi, āā ..... ʒss 2
Liq. petrolati ..... ʒss 15
M. Ft. unguentum. Sig.: Apply locally; or:

℞. Cocainæ hydrochlor. ..... gr. iii 20
Liq. petrolati ..... ʒvi 24
M. Ft. unguentum. Sig.: Apply locally.

After opening the phlyctenules, a simple aseptic powder may be dusted on thickly and a bandage dressing applied, renewing it daily without washing the lesion. If the vesicles become infected the following antiseptic powder will be of value.

℞. Acidi borici
Iodoformi, āā ..... gr. lxxv 5
Pulv. amyli ..... ʒi 30
Zinci oxidi ..... ʒiii 12
M. Sig.: Apply locally. If the pain proves to be troublesome one-third of a grain of the cocain may be added to one of the foregoing. In aged individuals, according to the author, the pain caused by herpes is sometimes agonizing. Under such circumstances the following pill is advised internally:

℞. Ext. hyoscyami
Ext. stramonii
Ext. belladonnæ, āā ..... gr. 1/10 .006
M. Ft. pilula No. i. Sig.: One such pill four times a day.

The insomnia, if present, may be relieved by moderate doses of chloral hydrate or the bromids. Gelsemium, aconite or acetanilid may be given internally to relieve the severe neuralgia which frequently follows herpes.

Radium in Treatment of Cancer.

According to W. J. Morton, in the *International Jour. of Surgery*, radium can be applied in a practical manner in the treatment of carcinoma of the throat or uterus. Radium gives forth emanations similar to those of a Crookes tube, and may be held in small glass tubes, which can be easily introduced into those cavities where it has been impossible to introduce the Crookes or the *x*-rays.

Mercury Hypodermically in Syphilis.

The following combination of mercury with chloretone is recommended by S. P. Collings, in *Interstate Med. Jour.*, in the treatment of syphilis:

℞. Hydrarg. bichloridi ..... gr. viiss .50
Sodii chloridi ..... gr. iv .25
Aquæ ..... ʒi 4
M. Ft. solutio (gently heating); et adde:

Chloretone ..... gr. viiss .50
Aquæ destil. ..... ʒv 20
Alcoholis (absolute) ..... gtt. xv 1
M. Dissolve the chloretone in the five drams (20.00) of water, add the alcohol and finally the solution of mercury. Sig.: Shake well, filter and inject ten drops every four or five days, increasing the dose as indicated.

Calcium Chlorid as a Hemostatic.

Bartignon, in *Courier of Med.*, recommends the use of calcium chlorid as a hemostatic in hemorrhages from whatever source, and especially in hemophilia. In his experience it surpasses in efficiency, perchlorid of iron, antipyrin, ergotin, and does not disturb the stomach as do some of the preparations just mentioned. He employs it combined as follows:

℞. Calcii chloridi ..... ʒi 4
Syr. opii ..... ʒiii 90
Aquæ ..... ʒiv 120
M. Sig.: The entire amount to be taken in twenty-four hours, in divided doses.

Expectorants and Inhalations for Cough in Children.

In the treatment of coughs in children, Augustus Caillé, in the *Post Grad.*, recommends expectorants to aid Nature in expelling the secretions, particularly in feeble children and very old people. Ipecac, ammonia, benzoic acid, camphor and potassium iodid are given as good examples. However, when the cough has its origin in the nasopharynx salt water or albolene spray is indicated or local cauterization with a 2 per cent. solution of silver nitrate. When the origin of the cough is located lower down in the respiratory tract the author employs the following combinations:

℞. Tinct. opii camph. ..... ʒii 8
Sig.: Five to fifteen drops in sugar water once or twice at night to check the cough in a child.

The foregoing is recommended for use only in urgent cases.

The following may be substituted:

℞. Tinct. opii camph.
Vini ipecacuanhæ, āā ..... ʒii 8
M. Sig.: Five to fifteen drops at one dose, to be repeated once during the night if necessary as a sedative and expectorant for a child; or:

℞. Liq. ammon. anisati ..... ʒii 8
Sig.: One-half a drop to five drops in sugar water several times a day for children as an expectorant; or:

℞. Ammon. chloridi ..... ʒss 2
Tinct. opii camph. ..... ʒi 4
Syr. pruni virg.
Aquæ, āā ..... ʒi 30
M. Sig.: One teaspoonful every three hours for adults, to check cough; or:

℞. Potassii iodidi
Tinct. opii camph., āā ..... ʒi 4
Liq. ammon. anisati ..... ʒss 2
Syr. tolutani ..... ʒvi 24
Aquæ q. s. ad ..... ʒiv 120
M. Sig.: One-half to one teaspoonful three or four times a day, as an expectorant for children and adults; or:

℞. Camphoræ (tritæ) ..... gr. ss .03
Acidi benzoici ..... gr. ii .12
M. Sig.: To be taken in sweetmeats three times a days as an expectorant for children.

He recommends, also, terebene and terebene hydrate in any form of chronic bronchitis as an expectorant, the dose ranging

from two (.12) to five (.30) drops in syrup or sugar or given in the form of an inhalation. As to inhalations, the various saline antiseptic and balsamic inhalants, as vapors and sprays, are of little value as compared with the soothing effects of breathing pure mountain or seashore air. It is of value, in private practice, to moisten the air of the sick room by evaporating water from an open vessel or croup kettle over a flame to which one of the following preparations has been added: Terebenthina, oil of eucalyptus, compound tincture of benzoin, terebene, or creosote. According to the author the value of oxygen inhalations is overrated.

The foregoing stimulants and expectorants are of value in overcoming dyspnea of cardiac or pulmonary origin.

In the treatment of the cough in acute bronchitis, Comby, in *Twentieth Cent. Pract. of Med.*, states that opium preparations should never be given for fear of paralyzing the lungs and lessening the reflex cough by means of which the bronchial tubes are kept open. He does advise emetics, purgatives, such as ipecac, calomel, and scammony.

Revulsion should also be carried out by means of cups, mustard plasters or tincture of iodin. Sprays are of value and the room should be saturated with antiseptic vapors. Brandy or rum should be given if there is much depression. The limbs should be well protected, if necessary, with cotton, and the child isolated. In chronic bronchitis, in addition to the local treatment, the author recommends cod liver oil, iodids and sulphur preparations internally.

Variola (Smallpox).

The following combinations are of value, according to *Jour. des Pract.*, in the treatment of smallpox:

℞.	Hydrarg. chloridi corros.	gr. 3/4	05
	Lanolini		
	Liq. petrolati, āā	3ii	8

M. Ft. unguentum. Sig.: Apply locally.

As an antiseptic spray for the eruption the following combination is recommended:

℞.	Hydrarg. choloridi corros.		
	Acidi tartarici, āā	gr. xv	1
	Alcoholis	gtt. lxxv	5
	Spts. etheris sulphurici q. s. ad	Oi	500

M. As a spray locally to the affected areas two or three times a day, protecting the eyes with gauze while using the spray.

As an eliminant, the following combination is recommended as of use in the early stages of smallpox:

℞.	Ammon. acetatis	℥ss	15
	Aq. menthæ pip.	℥iii	90
	Aquæ destil.	℥ii	60

M. Sig.: One tablespoonful every hour.

In the hemorrhagic cases the following combination is of value:

℞.	Calcii chloridi	3iss	6
	Solutionis gum arabic (30 per cent.)	3x	40
	Tinct. cinnamomi	3iiss	10
	Syrupi acaciæ q. s. ad	℥v	150

M. Sig.: The entire amount to be taken in twenty-four hours in divided doses, a tablespoonful being taken at each dose.

Lotion for Cracked Nipples.

The following combination has been recommended in the treatment of cracks or fissures in the nipples:

℞.	Acidi carbol.	gtt. xv	1
	Aq. laurocerasi		
	Glycerini, āā	3i	4
	Sol. acidi borici (saturated)	Oi	500

M. Sig.: Apply freely to the affected areas.

Some of the Uses of Carbolic Acid.

Pure carbolic acid, according to W. J. Krausi, in *Merck's Archives*, can be applied to any part of the body or the openings of the body if it is immediately followed by its antidote, alcohol. It may be used on varicose or indolent ulcers with excellent results if followed up immediately by alcohol. The hypodermic injection of a 3 per cent. solution of carbolic acid in and around the bases of furuncles, carbuncles or malignant pustules, gives very satisfactory results, relieving the constitutional symptoms and hastening repair. In pruritus, carbolic acid applied locally followed by alcohol gives instantaneous relief. In lymphangitis, the same treatment along the line of lymphatic inflammation is of great benefit. Erysipelas can be prevented from spreading by the application of pure carbolic acid, and when the skin begins to turn white the alcohol should be applied, followed by the application of gauze steeped in a 1 per cent. carbolic acid solution. In this way, according to the author, the temperature may be reduced to normal and no internal medication may be necessary.

The following combination is serviceable in relieving the itching in the dry form of eczema:

℞.	Acidi carbol. (pure)	3ii	8
	Glycerini	3iv	15
	Aquæ	Oi	500

M. Ft. lotio. Sig.: Apply locally for the relief of the itching.

In specific ulcers repeated application of the following will produce healthy granulations at the base of the ulcer:

℞.	Acidi carbol.	gr. xv	1
	Alcoholis	3iv	15
	Glycerini	3i	4
	Aquæ q. s. ad	℥iv	120

M. Sig.: To be applied locally.

In urticaria the following combination is recommended:

℞.	Acidi carbol.	3i	4
	Acidi borici	3iv	15
	Alcoholis	℥ii	60
	Aquæ	Oi	500

M. Ft. lotio. Sig.: Apply locally.

In tinea tonsurans, tinea favosa, and tinea versicolor a solution containing equal parts of carbolic acid (5 per cent. solution) and glycerin is of value.

Medicolegal.

Evidence of Right to Practice—Suing Married Woman.—The Supreme Court of Georgia holds, in the case of Trentham vs. Waldrop, that where a physician brings an action against a patient to recover for professional services, and alleges that he is a duly licensed, practicing physician, and this allegation is denied by the party sued, a certificate of the clerk of the superior court of the county of his residence, showing that such physician duly registered prior to the year 1895, in compliance with the provisions of Section 1479 of the civil code, is prima facie evidence of his right to practice medicine. Where, in such an action, it appears that the party sued was a married woman, having a separate estate, and the physician testifies that she, before the services were rendered, agreed to be herself responsible for payment for them, while the party sued pleads and testifies that she made no such special contract or promise, there is such a conflict in the evidence as should be submitted to the jury, and it is error to direct the jury to find in favor of the party sued on this issue.

Physicians Appointed by Court as Witnesses.—The Supreme Court of Washington holds, in the personal injury case of Smith vs. City of Seattle, that an instruction was properly refused which was requested to the effect that two physicians who had been appointed by the trial court as a commission to make a physical examination of the party injured were witnesses neither in behalf of the one side nor the other, and this fact the jury might take into consideration in determining their credibility, interest in the result of the case, and the weight to be attached to their testimony. The Supreme Court says that while it was true that the physicians in question had been appointed by the court to make the examination, yet they testified as witnesses called by the city. To have given the instruction would have been for the court to say, inferentially at least, that the jury were at liberty to give greater credence to the testimony of these witnesses because they had been selected by the court. This would have been clearly erroneous. Their testimony must be subjected to the same tests as that of other witnesses, and it would have been error

for the court to distinguish it as being subject to any different rule.

Sufficiency of Reporting Births by Mail.—The case of the Department of Health of the City of New York vs. Owen was brought to recover from a physician $100 penalty for an alleged failure to report facts relating to the birth of a child, as required by the city charter. The physician testified that he made a written copy of his register of the birth, and mailed it, inclosed in a properly addressed, postage-paid envelope, to the department within ten days after birth. The only testimony on behalf of the department to indicate that this report was not received was given by the assistant register of record, who testified, in substance, that he had personal charge and control of the records of births; that they were received by him personally; that he made a search of the records of the department for a certificate of the birth in question; that there was no such certificate there; and that the usual custom prevailing in the department as to notification by a physician of a birth was that such notice, as a general rule, was mailed and sent through the postoffice. From this evidence, the Appellate Term of the Supreme Court of New York says, the conclusion followed that the physician's report, having been duly mailed, was received by the department, as its testimony on this point did not go so far as to amount to a denial that it was received. The fact that it may not have been among the records of the department at the time search for it was made was not evidence that it was not received there by mail in due course. It may have been received, and afterward lost or mislaid. But it was contended that even if this report was mailed by the physician, still the statute was violated; it being claimed that the report should have been taken personally to the office of the health department and left there. The court holds that this construction of the statute could not be sustained. It says that the statute does not require the physician to report a copy of his register as "notice" to the health department, in order for it to protect itself against an invasion of any of its rights. The report is required in order that a public record may be made from it, and there appears to be no good reason why the information required by the statute can not be imparted to the health department as certainly by mail as by requiring physicians to attend personally at the department for the purpose of handing in these reports. There seems to be no public necessity calling for the construction of the statute in the manner urged by the department. If it were so construed, there would, in all probability, be more failures of physicians to make their reports in person at the department than there are now when they may adopt the more convenient method of mailing those reports. Furthermore, the court says that the statute which was the basis of this action was penal in its nature, and its terms should not be enlarged by judicial construction, while the legislative intent as expressed in the statute could be effectively accomplished without the interference of the court.

Liability for Services Rendered Smallpox Patient.—The Supreme Court of Georgia says that, taking the evidence in the case of Smith vs. Hobbs, an action for professional services, most strongly against the party suing and most favorably for the one sued, it appeared that the party sued and other members of his family were afflicted with smallpox in the city of Gainesville; that the city authorities caused his house to be quarantined, and sent the party suing as a physician to treat him and other members of his family, all this being done without consulting the party sued; that the latter at no time employed the physician, or agreed to pay for the services rendered to him, but simply received the services as rendered, acting on the assumption that, as the city authorities had taken control of his premises, and had sent a physician whom he had not employed, and who was not his family physician, they intended to provide for all of the expenses incident to the treatment of the disease with which he and other members of his family were afflicted. There was evidence for the party sued authorizing the jury to find that at the time the services were rendered the conduct and sayings of the physician were such as to indicate to him that the physician did not intend to hold him liable for the services so rendered. This was the case taken most favorably for the party sued. Of course, there was evidence to the contrary, and which, the court says, would have authorized a finding for the physician. But the jury rendered a verdict in favor of the party sued; and the court holds that the evidence authorized it. In Sections 1472-1474 of the political code it is provided that, when smallpox has appeared in any city, the city authorities are empowered to provide a suitable hospital for those afflicted with the disease, and to furnish them with medical and other attention; and also authorizing the city authorities to provide quarantine regulations to prevent the spread of the disease, but not to require any person to leave his home and go to the hospital when he is properly provided for and quarantined elsewhere at his own expense; the act providing that the city shall not pay the expenses of any person so situated. The court holds that the provision that the city shall not pay the expenses of a person quarantined and provided for at his own home is applicable only in cases where a suitable hospital has been provided, and the person afflicted has been given an opportunity to be carried there, and has insisted on being treated at home. The party sued had a right to show that he was not liable, and evidence that another was liable for the account sued on was a proper matter to be considered by the jury in determining the liability of the party sued. It was not necessary that there should be any special plea setting up that the city was liable to authorize evidence of its liability for the purpose of showing non-liability on the part of the party sued. The city was not a party, and the judgment in this case would not bar a suit against it to recover the amount of the claim, though the question of whether the city was liable, the court says, was not involved in this case and was not passed on.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

January 16.

1 *Cancer of the Stomach. A Review of Cases from the Standpoint of Diagnosis and Medical and Surgical Treatment. James R. Arneill.
2 *Congenital Intrauterine Poliomyelitis and Neuritis: The Question of Their Occurrence and Influence on So-called Congenital Deformities. Joseph Fraenkel and B. Onuf.
3 Malaria Followed by Interstitial Nephritis and Peripheral Neuritis. Otto Lerch.
4 Hallucinations of Vision. Howard F. Hansell.
5 *An Unusual Form of Tuberculous Disease of the Chest. J. N. Hall.
6 *Operation for the Radical Cure of Inguinal Hernia in Young Children. Pearce Kintzing.

1.—See also ¶85 below.

2. **Congenital Intra-uterine Poliomyelitis and Neuritis.**—The case reported by Fränkel and Onuf is given in detail and includes the study of several thousand careful sections. The child was four years old, had luxation of the right radius and of the left hip, motor disturbances of all four extremities, bilateral wrist-drop, drop-foot, disturbances of speech and of facial innervation. Cranial innervation was asymmetrical, the face being drawn to the left side. Other than the seventh, the cranial nerves were normal. The patient died from malignant diphtheria. After autopsy a careful microscopic examination was made, which had been so delayed that histologic interpretation was to some extent embarrassed. The causes of the condition are discussed at length. The authors rather favor the probability of congenital, intra-uterine poliomyelitis and neuritis with a suggestion of lead poisoning as a cause.

5. **Tuberculosis.**—Hall reports two personal observations and refers to one reported by a brother physician in which there were temporary manifestations of tuberculosis, hemorrhage, tuberculous sputa, loss of flesh with bronchial and laryngeal symptoms, but an absolute lack of physical signs or permanent disability. He does not believe that the pus and bacteria came from the lung proper, nor does he accept the suggestion of a small cavity, from which they might have occasionally

escaped. He thinks we can best account for the conditions by assuming a slow, chronic tuberculous ulcerative process in the bronchial glands.

6. **Inguinal Hernia in Children.**—Kintzing speaks of the hopelessness of expectant and mechanical treatment in many of these cases and describes the operation which he has performed. The youngest patient was one and a half years old. In this case the sac of the hernia and the tunica vaginalis testis were continuous, and the various elements which go to form the cord were spread out on the sac, as though forming an integral part of it. It was necessary, therefore, to first free the sac up to and well within the internal abdominal ring, then to slit it up within a short distance of this point, to free and return its contents to the abdominal cavity. After separating the vas deferens and its vessels and ligating the supernumerary veins, the sac was ligated at as high a point as possible, and one thread left long for transplantation of the stump. This transplantation is best done by passing a long-curved needle downward and inward through the transversalis fascia toward the conjoined tendon, and drawing the stump behind and against this structure. His plan has been to draw up the downward continuation of the sac, until the upper orifice of the scrotum is reached; then to cut off at this point the cuff-shaped expansion which has formed the hernial sac, leaving a tongue-shaped process to which is attached the cord as above described. In his experience, the remaining portion which drops back into the scrotum, even though much thickened, has taken care of itself without producing trouble. The omentum contained in the sac was, of course, freed and returned or removed as deemed necessary. The suturing was done in the usual manner, and the dressing retained by a plaster-of-paris spica around the thigh and the crests of the ilia, kept on about four weeks. This style of dressing prevents movement of the parts, and yet the child can be kept out in the fresh air.

Medical News, New York.

January 16.

7 *The Social Evil in University Life; a Talk with the Students of the University of Pennsylvania. Robert N. Willson.
8 Case of Mastoiditis; Sinus Thrombosis; Pyemia; Two Operations; Recovery. Thomas R. Pooley.
9 *The Surgical Treatment of Acquired Incontinence of Urine in Women. Charles G. Cumston.
10 *Some Subjective Hints of the Morphin Habit. William Lee Howard.
11 *Hemorrhagic Diseases and Their Allies in the Light of Modern Pathology. F. L. Wachenheim.

7. **The Social Evils of University Life.**—Wilson points out the dangers from gonorrhea and syphilis, especially to students, and the impolicy—to say nothing of the wickedness—of being other than pure in life.

9. **Incontinence of Urine.**—Cumston's article describes the various forms of acquired incontinence in women and the operations for its relief.

10. **The Morphin Habit.**—Howard gives certain diagnostic hints as regards the morphin habit, and calls attention to the necessity of keeping any suspicion from the patient. Watch the conditions, especially if in the afternoon, to see whether she is under the effect of the drug. If she comes complaining of a distressed feeling, ill health, irritability, etc., treat the condition, but insist that the treatment must be continued for weeks, laying considerable emphasis on the importance of seeing the patient at a certain time. Make an appointment for the next day at an early hour. The next day the appointed hour passes, and when the patient finally arrives, her excuses must be accepted. Again notice the general attitude of the patient. It may or may not vary with that noticed the day before, but the treatment must be the same. The physician must find out as to the conditions in the morning, as to the appetite, slowness of rising, etc. The patient is again late on the third day. Then he should appear at the house the next morning at a reasonable hour, with the excuse that he could not keep the office hour, and not wishing to have the day pass without seeing her, he called. It is probable that he would be told that she is not yet down and "Will he wait?" He may be detained half or three-quarters of an hour when she appears with every evidence of a hasty and careless toilet, moist skin, pale face and vapid, filmy eyes, and he is now satisfied that he is on the right track. The small amount of the drug taken will probably require her to ask to be soon excused, but after this the observer must see her under different conditions, e. g., at night when she is under the drug's control, and compare the two conditions. Make another engagement for an early hour, and if it is not kept, you will realize how impossible it is for her to recognize the value of time or promises. It is not much use to note the condition of the pupils, for the patients become expert in the use of atropin. A urinary examination may be advised, only to find that other samples have been substituted. The statements of the intimates of the patient should be sought but taken guardedly. If all accounts agree that the morale of the patient is gradually changing, she being careless of her statements, of engagements and of her sense of relationship to others, we can come to the conclusion that we are dealing with a user of morphin.

11. **Hemorrhagic Diseases.**—Wachenheim sums up his arguments as follows:

> We find that hemophilia, congenital or acquired, is a toxinemia with secondary autoimmunization to a quasi-normal function; that the scorbutic affections are chemical autointoxications, hemorrhagic only because the blood is especially involved; and that the purpura rheumatica group is only a manifestation of ordinary rheumatism or sepsis. After this exposition of their very diverse nature, it seems clear that the old class of the hemorrhagic diseases has become obsolete, should be relegated to the domain of historic medicine, and cease to appear in our monographs and text-books to further puzzle the student and physician. . . . . Winckel's disease, melena neonatorum, paroxysmal hemoglobinuria, and allied clinical pictures must be regarded not as distinct entities, but as symptom groups; like the other outwardly similar conditions, they have been placed among the hemorrhagic diseases; their proper position is under the various heads of sepsis, congenital syphilis, malaria, autointoxications, and so on, according to the individual case.

New York Medical Journal.

January 16.

12 Psychic Healing, or, Properly Speaking, the Treatment of Disease or Supposed Disease by Mental Influence. Edward Wallace Lee.
13 *The Relation of Early Diagnosis and Treatment to the Prevention of Tuberculosis. F. M. Pottenger.
14 Simple and Inexpensive Apparatus for Lifting and Moving Helpless Patients. Frederick H. Sawers.
15 *Concerning the Accuracy of Percentage Modification of Milk for Infants. (Concluded.) David L. Edsall and Charles A. Fife.
16 *Some Investigations of a Bacterial Treatment of Tuberculosis. (Continued.) Stephen J. Maher.

13. **Tuberculosis.**—In order to detect tuberculosis, Pottenger says it is not necessary to wait until the bacillus appears in the sputum. If the physical signs and other diagnostic characteristics fail, the tuberculin test can be used with confidence and safety. Too much importance, however, must not be laid on physical signs, but careful attention be also given to the clinical history. While the disease is pure tuberculosis, it consists of nothing more than a few tubercles, leucocytes and proliferated-fixed cells, with very slight local irritation and slight general constitutional disturbance. Later, as the tubercles multiply, the whole disease changes. There is congestion with exudation, and a pneumonic process supervenes, cavities form and other germs enter, making a mixed infection, with all the symptoms of consumption. Tuberculosis is curable, but as regards consumption no one has been empowered with the ability to generate new cells, and without this, absolute cure can not be secured, though the condition may be arrested. Both, however, should be treated. Tuberculosis patients, he says, are apt to be indiscrete—waste their time and energy on fruitless treatments. The profession is not doing its duty in not telling them the nature and extent of their case, and they are often borne up by fallacious hopes of cure; whereas, in 80 per cent. of cases, if treated in the beginning under proper conditions, cure can be expected. Hygienic treatment is insisted on. He believes in the use of tuberculin, but it must be understood that serums have their specific action on tuberculosis and not on consumption. The advantages of sanatorium treatment are extolled as giving the best chance of recovery, and removing the patient from the danger of infecting others.

15. **Milk Infection.**—The general conclusions which Edsall and Fife consider justified are:

> 1. Milk modifications, under the best conditions, will often vary 0.2 per cent., occasionally 0.3 per cent. from the prescribed formulæ, with modifications of medium strength. With low modifica-

tions, the error will be correspondingly less; and with high modifications, correspondingly somewhat greater.

2. Home modifications are, within the limits just mentioned, trustworthy, if they are made by a clear-headed and careful person, from milks and creams of a chemical composition that is known to be reliable.

3. If the composition of the milks and creams used is not known, or if one can not be sure that the modifier is careful and clear headed, home modifications are likely to vary greatly from the formulæ prescribed.

4. Laboratory modifications appear from our figures to be satisfactorily accurate; and unless the milks and creams, as well as the person doing the modifying at home, can be fully trusted, laboratory modifications, when available, are much more reliable than home modifications.

While the most satisfactory method would be to have a thoroughly competent person make the modifications at home, it is necessary that a perfectly clear-headed mother or nurse should accomplish this. The authors are somewhat doubtful as to the accuracy in many cases, and nothing should be left to judgment or memory. There is a great advantage in using milks and creams that are under constant professional control and certified as being reliable. He advises occasional control tests of milk modifications done at home, by the physician or an assistant, as keeping them up to a proper point of accuracy.

16. **Tuberculosis.**—Maher gives a history of his method as practiced in the Seton Hospital, at Spuyten Duyvil, where he has used the cultures on some 60 cases, a number of which are reported with decidedly striking results. No compulsion was used in securing the patients and no promises of cure were made. Only the harmlessness of the method was assured. The larger number of the cases have not been under observation long enough to enable him to speak positively as to results, but an encouraging number show evidence of improvement. Some of the cases he reports are certainly rather remarkable.

Boston Medical and Surgical Journal.

January 14.

17 *Cardiac Displacement. Arthur K. Stone.
18 Intermittent Hydronephrosis—Uterine Fibroid. M. H. Richardson.
19 Some Cases of Intussusception. Franklin G. Balch.
20 *The Bicycle as a Therapeutic Agent. Luther H. Gulick.
21 *Mercuric Cyanide as a Surgical Disinfectant. Charles Harrington.

17. **Cardiac Displacement.**—The possibilities of cardiac displacement in its different forms such, for example, as complete dextrocardia and mirror heart without general visceral transposition, are discussed by Stone. So far as he can find, no case of mirror heart has been put on record, though Graanboom has reported one of congenital dextrocardia with a peculiar arrangement somewhat suggestive as far as the appendages are concerned. He goes over the various forms of acquired changes, and says we must remember that in case of displacement, the heart tends to move as a mass to the right or left, and that rotation is very rare. When found, it is accompanied by exceptional conditions or is brought about by the presence of contracting adhesions; that practically in all cases the visible cardiac impulse to the right of the sternum is caused by the base of the heart and not by the apex; that extreme displacement may take place without the slightest discomfort, and that sudden death occurring in cases of large pleuritic effusions is not due to the cardiac displacements.

20. **The Bicycle.**—According to Gulick, the bicycle is a useful therapeutic agent where it is desired to increase the general organic functions of the circulation, respiration and digestive tract. Its advantages are that it exercises the large muscle masses by a great number of small efforts, that it is automatic and calls for no great neural expenditure, is taken in the open air, and, in proportion to the work done, there is little consciousness of fatigue. It is available anywhere, and with it there may be the advantages of varied scenery and good companionship.

21. **Mercuric Cyanid.**—Harrington has experimented with silk threads impregnated with 24-hour-old cultures of pus microbes, then subjected to the influence of a 1/1000 solution of pure mercuric cyanid. After varying periods of contact they were withdrawn and planted in sterile bouillon and incubated for twenty-four hours. The results were striking, and the conclusion he reaches is that the practical value of mercuric cyanid in the strength recommended is nil, and that it can not destroy all known species of pus organisms within three hours, and in double that strength accomplishes nothing within thirty minutes. It can, therefore, hardly be classed among the effective germicides.

Medical Record, New York.

January 16.

22 *The Serum Treatment of Typhoid Fever. Max Einhorn.
23 *The Roentgen or Tri-ultra-violet Rays, Their Nature, Application and Dermatologic Effects. Francis Le Roy Satterlee, Jr.
24 *X-ray Dermatitis as Influenced by Idiosyncrasy. A. D. Rockwell.
25 *Liquefied Air. A. Campbell White.

22. **Typhoid Fever.**—Einhorn first notices the history of the serum treatment of typhoid, reviewing the statements of Jez, Widal and others, and gives his own experience. He employed the antityphoid fever serum of Jez and Tavel of the Berne Board of Health. He chose to use the injection method rather than to give it by the mouth, though in a few cases he also tried it in that way. As soon as the diagnosis of typhoid was made, usually with the positive Widal reaction, 6 to 12 c.c. of serum were injected daily until the temperature remained under 100 F. The cases chosen were all medium, grave and severe hospital cases. The total number of patients was 10. The details and temperature curves are given. He finds from his study that in most cases the disease did not appear to be materially shortened, but a marked reduction of the fever usually occurs, either the day after the first or after the second injection. The remission is one or two degrees lower, and the general condition, especially the sensory and nervous symptoms, were most improved. Some grave complications, like sleeplessness, headache, restlessness, delirium, etc., disappeared almost entirely. The treatment was usually begun from the ninth to the fifteenth day. He thinks still better results would be obtained with earlier recourse to the serum. While the series is small, he thinks the cases indicate that the serum treatment temporarily reduces the fever and improves the general condition so that the patients go on to more rapid recovery and safer convalescence. He has not observed any dangers connected with the injections. There was never any serious trouble. In two cases only a passing erythema of the skin was observed at the point of injection. In one case chills used to follow after quarter to half an hour. Abscesses were never observed. He favors the treatment and believes that we will yet have still better effects from a more potent serum.

23. **The Roentgen Rays.**—Satterlee gives the history of and the theories that have been offered in regard to the Roentgen rays, the character of the tubes, etc., and notices their value as a diagnostic and curative agent. He criticises the opinion that the Roentgen ray is a positive diagnostic agent as distortions have occurred, but this does not detract from its general value as an important factor in the diagnosis, especially in locating conditions. The rays have been used in some of the most formidable diseases that affect mankind, such as lupus, carcinoma, enlarged glands, phthisis, rodent ulcer, etc., and while time has not yet sufficiently elapsed to show the absolute permanency of some of the cures, yet enough has been discovered to show their value. In many cases it may be necessary to produce dermatitis, while in others a few treatments will bring about effective results. He thinks the promises for the future are still better than have been the results of the past and present.

24. **X-Ray Dermatitis.**—Rockwell calls attention to idiosyncrasy as affecting the probability of *x*-ray dermatitis, and reports cases showing susceptibility. He thinks we should never fail to interrogate as to idiosyncrasy, such as to sunburn, ivy poisoning, from eternal applications, before using the *x*-rays. In one case in his experience, where no appreciable dermatitis was produced, the slightest exposure caused the most unpleasant sensations of burning and itching, and the patient was likewise specially subject to ivy poisoning. Advanced malignant cases are another matter—the burn may be of small value relatively; but in simple, uncomplicated skin affections the production of a dermatitis of the second or third degree may be regarded as worse than the disease.

25. **Liquefied Air.**—White describes liquefied air and its properties, calling attention to its value as a local anesthetic

and for treatment in inflammatory conditions. He thinks in inflammatory processes, where application of cold is desirable, the condition can be better and more pleasantly managed with liquefied air applications than in any other way, using exposure to the vapor from liquid air, or soaking a towel in the liquid, and quickly and intermittently applying it to the part, or rolling a glass bulb containing the liquid over the part, etc. To produce an inflammation or stimulating effect, the liquid air must be applied directly and intermittently to the skin. In chronic indolent ulcerating surfaces, by spraying just sufficient to freeze for a second only, a good healthy granulating surface will be obtained, and foreign growths can be destroyed in the same way. The air inflammation subsides quickly and responds readily to hot boracic acid or carbolic fomentations. A nevus or birthmark, if judiciously treated, can be removed by this more quickly and with less pain than by any other method. The greatest danger to be avoided is excessive freezing, which may produce inflammations as severe as those destroyed. Hemorrhage is not likely to occur even in very vascular nevi or hemorrhoids. In the treatment of carbuncle, not too far advanced, liquid air seems to act as a specific. In all cases of carbuncle less than 3 inches in circumference it was aborted in one hour after a thorough freezing. In larger ones he sprayed the cavity after a crucial incision, with prompt healing. He recapitulates as follows:

In liquid air we have the nearest approach to absolute zero ever obtained, excepting liquid hydrogen, which is many degrees colder and is liquefied by the assistance of liquid air. If there is any therapeutic value in cold we certainly have it in liquefied air, 312 degrees below zero, and from this we can obtain any desired temperature above that point. If there is any therapeutic advantage in having a dry cold, we have it in liquid air, for in anything colder than 32 degrees below zero no moisture can exist. That moist cold is more destructive to the tissues than dry cold is an accepted fact. If it is desired to produce a local anesthesia by cold, we have no means of obtaining the result equal to liquid air, for it is dry, rapid, thorough, clean, and under perfect control. That circulatory changes can be produced by the extremes of temperature, that of liquid air and the human body, is self-evident, and experiments in this direction have demonstrated its therapeutic value both in the production and reduction of inflammation, according to the method of its use. Being nothing but the air we live in, reduced to a low degree of temperature, and free from the usual pollutions of the atmosphere, it surpasses all other applications previously in use for the removal of all growths of benign or malignant character, because its application is practically painless, its action more rapid than electrical methods, and there is no systemic effect whatever following its local use.

If there is any value in the therapeutic use of oxygen, we have it in its most concentrated form in liquid air, from which it has been demonstrated we obtain liquid oxygen, and oxygen of much higher percentage and purer quality than obtained in any other way.

He says if the medical profession really understood liquid air and its physical properties, its therapeutic value would at once appeal to them.

Cincinnati Lancet-Clinic.

January 16.

26 *Gonorrhea in Women. Palmer Findley.
27 *A Few Considerations on the Etiology and Pathology of Cutaneous Cancer. (Concluded.) A. Ravogli.

26. **Gonorrhea in Women.**—Findley reviews the facts in regard to gonorrhea, its latency in certain instances, and describes the condition as it occurs in the female. He believes in the use of simple cleanliness in the acute stages, later using antiseptic solutionss to the urethra, such as 10 per cent. protargol solutions daily, curetting the uterus and applying pure formalin on a swab. If pus accumulates in the appendages it should be removed, though much may be done to facilitate absorption by conservative methods. The abdomen should never be opened during the acute stage. If the pain and toxic absorption demand interference, the abscess must be drained through the vagina or not at all.

27. **Cutaneous Cancer.**—Ravogli concludes thus:

1. Carcinoma is an inoculable disease. 2. Precancerous keratosis, superficial and deep cancers are identical. 3. Carcinoma in its origin is the result of a parasite. 4. The poisonous properties of this parasite are revealed on the cells, at first in a limited area, later on in the general system.

St. Louis Medical Review.

January 16.

28 Education and Culture in the Medical Man. E. S. Goodhue.

Bulletin of the Johns Hopkins Hospital, Baltimore.

December.

29 The Influence of Pasteur on Medical Science. C. A. Herter.
30 *Ascending Renal Infection; with Special Reference to the Reflux of Urine from the Bladder into the Ureters as an Etiologic Factor in Its Causation and Maintenance. John A. Sampson.
31 A Morphological Study of the Blood of Certain Fishes and Birds, with Special Reference to the Leucocytes of Birds. Ernest K. Cullen.

30. **Ascending Renal Infection.**—Sampson has studied the subject of ureteral infection and finds that the normal anatomic structure and the physiologic action of the ureters indicate that their function is not only to carry urine to the bladder, but also to prevent fluid from passing backward, and that under normal conditions it is impossible for the latter to take place, but cases have been reported where an apparent reflux has occurred. The infecting organism may be conveyed, he says, from the bladder to the kidney through the general circulation or the vesico-utero-ovario-renal anastomosis, through the ureteral blood vessels, the lymphatics or through the lumen of the ureter by injuries to the intravesical portion, by extension of an inflammatory process from the bladder along the ureteral walls, which is probably the most frequent, by organisms traveling up the ureter, especially when the current is interfered with by a stricture or something occluding the lumen of the ureter, by a reflux of urine from the bladder into the ureters, by intravesical pressure, reverse peristalsis, or by suction of air when the patients are examined in the knee-breast posture through an open cystoscope. This reflux may be considered as an etiologic factor in the causation and maintenance of renal infection only when the intravesical portion of the ureter is diseased, thus impairing its function, or when some ureteral abnormality exists. Two accessory etiologic factors of great importance must be considered: 1. An injured kidney with lowered local resistance, most frequently due to ureteral stricture from cystitis or calculi. 2. General ill health of the patient, that is, lowered general resistance. Both of these may so influence the function and resistance of the organism that it is no longer able to destroy or excrete that which under healthy conditions would have been done away with. He asks why autogenous renal infection does not occur more frequently, and why organisms are not found more often in the urine and in the blood of healthy individuals.

St. Paul Medical Journal.

January.

32 *Graves' Disease. With Report of Five Operated Cases. Arnold Schwyzer.
33 A Memoir of Desault. Charles G. Cumston.
34 Unusual Sources of Poisoning. William Davis.
35 Congenital Dislocations of the Hip. A. C. Baker.

32. **Exophthalmic Goiter.**—Schwyzer reports five cases operated on with good results. He thinks surgery offers the only good and reasonable hope in serious cases; that even in the milder cases, medical treatment can not promise anything definite. He asks why, then, even in moderate cases, if the treatment is unsatisfactory, should we not prefer an operation which in competent hands is only slightly dangerous and which, beside being a better guarantee for a more lasting cure, saves so much time and anxiety. He thinks the transitory or atypical forms or cases lacking a cardinal symptom ought not to be included as surgical cases, and only cases with distinct exophthalmic goiter should be considered. Otherwise the surgeon would run the risk of being charged with having operated on cases of simple thyroidism so often found in adolescent patients. But only in mild cases where internal treatment is satisfactory or operation is refused is internal medicine to be depended on. In all others surgical measures are advisable and preferable.

Journal of Infectious Diseases, Chicago.

January 2.

36 *Cultivation of Trypanosoma Brucei. Frederick C. Novy and Ward J. McNeal.
37 *Studies in Pyroplasmosis Hominis. ("Spotted Fever" or "Tick Fever" of the Rocky Mountains.) Louis B. Wilson and William M. Chowning.
38 Report on Two Cases of a Peculiar Form of Hand Infection Due to an Organism Resembling the Koch-Weeks Bacillus. John R. McDill and William B. Wherry.
39 *The Pathologic Anatomy of "Paratyphoid Fever." Report of a Fatal Case with Bacteriologic Findings. H. Gideon Wells and Lee O. Scott.
40 Agglutination of Streptococci, Especially Those Cultivated from Cases of Scarlatina, by Human Sera. George H. Weaver.

41 The Effects on Streptococci of Sera of Cold-blooded Animals. Gustav F. Ruediger.
42 The Action of Certain Salts on the Complement in Immune Serum. Wilfred H. Manwaring.
43 Experimental Study of Thyrotoxic Serum. Milton M. Portis.
44 *Contribution to the Casuistry of Placental and Congenital Tuberculosis. Aldred Scott Warthin and David M. Cowie.
45 Changes in the Bacterial Flora of Sewage During Storage. C. E. A. Winslow and D. M. Belcher.
46 Some Cultural Relations and Antagonisms of Bacillus Coli and Houston's Sewage Streptococci; with a Method for the Detection and Separation of These Micro-organisms in Polluted Waters. S. C. Prescott and S. K. Baker.

36.—See summary in THE JOURNAL A. M. A., Nov. 21, 1903, p. 1266.

37. **Pyroplasmosis Hominis.**—Wilson and Chowning give a full review of the spotted fever of Montana and its probable etiology. They see a direct relation between its occurrence and the active season of the *Spermophilus columbianus*, which probably harbors the ticks that give rise to the disease. The arguments are given in detail.

39. **Paratyphoid Fever.**—Wells and Scott give the histories and a study of five cases which indicate to them that paratyphoid infections are accompanied with quite different changes from those from typhoid. On the other hand, there is little characterizing this infection from other septicemias anatomically, however much it may differ clinically. The most constant change was the splenic enlargement which was present in all five. It seems to be the same as that of typhoid or ordinary septicemia. The microscopic findings are similar, and the anatomic changes are simply those of septicemia with splenic swelling and occasionally non-specific ulcerations in the intestine. The total escape of Peyer's patches seems to indicate some essential difference between the typhoid and paratyphoid organisms.

44.—See editorial last week.

Journal of Cutaneous Diseases, New York.

January.

47 Protozoa in a Case of Tropical Ulcer ("Aleppo Boil"). James H. Wright.
48 *Peculiar Inclusions in Lupus-like Tissue. John T. Bowen.
49 A Case of Epidermolysis Bullosa Hereditaria, Associated with Congenital Alopecia and Atrophy of the Finger Ends. Grover W. Wende.
50 Vitiligo Treated with Finsen Light. Douglass W. Montgomery.
51 A Case of Feigned Eruption. William S. Gotthell.
52 Method of Using Arnold's Phototherapeutic Apparatus. W. F. Arnold.
53 *A Tentative Suggestion Regarding the Nature and Character of X-rays. M. L. Heidingsfeld.

48. **Peculiar Inclusions in Lupus-Like Tissue.**—The case presented by Bowen was one that exhibited symptoms suggesting blastomycosis, but the lesions resembled tuberculosis more than anything. Pathologic examination showed bodies similar to those described by other observers in tuberculous tissue, but it was not possible to prove that it was a case of tuberculosis. The nature of the peculiar bodies could not be determined. There was no evidence of calcareous degeneration or that the bodies bore any relationship to elastic tissue. It was difficult to avoid the suspicion that they were parasites.

53. **The Character of the X-Rays.**—The theory of the *x*-ray here advanced by Heidingsfeld is that it consists of minute particles of platinum in a very high state of "radiant" excitation, emanating from the enclosed disc, and moving with sufficient velocity to readily penetrate the circumscribed glass enclosure and all opposed soft and fairly hard substances. This, he thinks, will explain all the physical and physiologic phenomenon. To confirm it, the detection of platinum at the point of ultimate deposition must be insured, and this is left for future study. A careful estimation of any loss of platinum from the disc after careful consumption of the tube, preferably with repeated exhaustions, would be also confirmatory, but less absolute proof.

Annals of Gynecology and Pediatry, Boston.

January.

54 *Hymen Intactus; Its Significance in Medical Jurisprudence. (Concluded.) Charles Greene Cumston.
55 Congenital Dilatation of the Colon. I. Valentine Levi.
56 Extra-uterine Gestation. Nelson W. McMurphy.
57 *The Causation and Treatment of Eclampsia. A. Lapthorn Smith.
58 Artificial Dilatation of the Cervix Uteri with Report of a New Instrument. Frank A. Higgins.

54. **Hymen Intactus.**—Cumston calls attention to the medicolegal bearings of the subject: the necessity in all cases of noticing the normal physical conditions of the hymen, as well as the question of its actual integrity or otherwise. The possibility of coitus without rupture of the hymen should be remembered and its shape, the resistance, etc., should be considered.

57. **Eclampsia.**—Smith holds that eclampsia is due to anemia of the corpora striata or to such other brain centers as control muscular movements. This anemia is caused by a spasm of the arterioles, but every capillary in the body is probably likewise affected, those of the kidneys included, and the spasm-producing toxin—not necessarily urea—rapidly increases in a vicious circle. The arterioles of the brain tighten up, causing disorders of vision and headache. The circulation of the blood through the kidneys comes to a stop, as well as that in the brain, the patient loses consciousness, and convulsions begin. The treatment which he considers best is to administer one-half or three-quarters of a grain of morphin within three minutes of seeing the case, and ten drops of veratrum viride hypodermically following in five minutes and repeated every ten minutes until the convulsions stop and the pulse comes down to 40. Then he gives a quart of salt solution by enema, to be quickly absorbed as the kidney arterioles relax. The water will rush into them, and in half an hour there will be a copious secretion of poison-laden urine. No chloroform or chloral will be needed, and no forced delivery. The best way is to allow the woman to fall into a quiet slumber. This occurred in half an hour in his three cases. The physician can then go home. There will be a normal labor and probably a dead fetus in a day or week. He says you may get a fright when the pulse comes down to 40, but there is nothing to fear. He has not been able to find or hear of a case of eclampsia treated in this way, but without chloroform or chloral, that died. He thinks chloroform administration is enough of itself sometimes to cause the death of the patient.

Ophthalmic Record, Chicago.

December.

59 *When Not to Prescribe Cylinders for Astigmatic Eyes, and When to Prescribe Them for Non-astigmatic Eyes. N. C. Steele.
60 *Is Double Operation for Senile Cataracts Justifiable? Howard F. Hansell.
61 *Notes on Some of the Newer Methods and Drugs in Ocular Therapeutics. Methylbromid of Atropin, Dionin, Subconjunctival Injections, Jequiritol. Albert B. Hale.
62 A Deviometer Attachment to the Skeel Perimeter. David W. Wells.

59. **Astigmatism.**—From a study of the subject, Steele concludes that many cases with low degrees of astigmatism with the best meridian horizontal, or nearly so, should not have the astigmatism corrected, at least not fully corrected, in lenses for near use only. This does not apply, he says, to lenses to be used for all purposes such as are generally worn by persons under forty, nor does it apply to simple cylinders of low degree, nor to lenses in properly selected pantoscopic frames. It applies, however, to cases where the refraction tests indicate the near use of spherocylinders with cylinder axis horizontal, because it is chiefly the increased converging power of the vertical meridians of spherical lenses and the spherical part of spherocylindrical lenses as used in near work that produces the condition discussed. He is guided by the following suggestions in cases of astigmatism with the best meridian horizontal in prescribing near lenses: If the astigmatism is of low degree with best meridian horizontal, he entirely omits the cylindric element of the lens. In high degrees of astigmatism he omits a part of the cylindric element, thus undercorrecting the absolute amount of astigmatism shown to exist by the usual tests. He depends on the spherical lenses or the spherical part of the spherocylindrical lenses to correct all or a portion of the astigmatism.

60. **Senile Cataract.**—Hansell has performed the double operation in five cases of senile cataract, and his experience inclines him to increase the number as suitable opportunities arise. He believes the double operation is justifiable when the vision of each eye is so diminished that the patient is de-

barred from his usual occupation and is consequently unable to earn a living, both cataracts being ripe enough to warrant extraction. In other words, that either lens might be operated on with equally good chances of a favorable result when nothing in the patient's physical or mental state might militate against recovery; when the cataracts are not secondary to local or general disease, and when extraction of the first lens is accomplished without accident or indications of complications should operation on the second eye be attempted. The surgical shock, he says, is hardly worth considering. The real suffering, nervousness, confinement to bed, etc., are the same whether one or both eyes are operated on.

61. **New Ophthalmic Drugs.**—Hale gives his experience with certain new drugs in ophthalmic practice. Methylbromid of atropin is first mentioned, and he has found it much quicker in disappearance than the sulphate, twelve to twenty-four hours quicker than scopolamin, and somewhat slower than homatropin. His experience convinces him that methylbromid of atropin used in a 1 per cent. aqueous solution is a trustworthy mydriatic and a good cycloplegic in refraction; an untrustworthy mydriatic in iritis, but a comfortable one in corneal inflammations; its action begins at about the same time as the sulphate, but has disappeared from two to six days before the latter; it should rank below the sulphate for complete action, but equal or above all other drugs. Dionin has not been so satisfactory in his experience. He thinks it deserves a more modest place in therapeutics than some of its advocates would give it. Its action is not lasting; it is simply an adjunct to other agents, helpful in emergency, but not trustworthy. He says, let us use it as a powder, as a 1 or 5 per cent. solution, alone or with another drug, but let us not forget that it is always the other drug on which we must rely. Subconjunctival injections and their value are also discussed. He finds that they are especially advantageous in non-suppurative diseases of the uveal tract, such as plastic choroiditis. He does not place much dependence on the method in corneal inflammation, though remarkable results have been reported. The only question, in his mind, is to decide on the best way of applying the method. The earliest theory insisted on using a solution of mercuric bichlorid for its special antiseptic and specific powers, but this has been abandoned and simple sodium solution, either 2 per cent. or higher strengths, suggested. He finds no advantage in sodium chlorid solution stronger than 2 per cent. His experience has not been favorable with hetol. Lately he has used 1 to 3,000 and 1 to 5,000 cyanid of mercury solution, to every fifteen drops of which he has added two drops of a 1 per cent. acoin solution. He has steadily used this combination, and has seen no reason to abandon it. Jequiritol has also been tested, and 6 cases of its use are reported. He does not hold that it is a complete substitute for better methods or that it will revolutionize the treatment of trachoma or vascular keratitis, but it certainly has remarkable power.

American Journal of the Medical Sciences, Philadelphia.

January.

63 *On the Visceral Manifestations of the Erythema Group of Skin Diseases. William Osler.
64 *A Clinical and Pathologic Study of Two Cases of Splenic Anemia, with Early and Late Stages of Cirrhosis. George Dock and Aldred S. Warthin.
65 *Desquamation of the Skin in Typhoid Fever. David Riesman.
66 *The Differential Diagnosis of Typhoid Fever in Its Earliest Stages. William C. Rucker.
67 *The Localizing Diagnostic Significance of So-called Hemianoptic Hallucinations, with Remarks on Bitemporal Scintillating Scotomata. A. Pick.
68 Case of Spontaneous Prolapse of Both Lacrymal Glands. Review of the Literature. Dunbar Roy.
69 Acute Suppurative Thyroiditis. Henry Roth.
70 Case of Complete Bilateral Duplication of the Ureters. Henry B. Decherd.
71 *The Present Status of Pseudodiphtheria Bacilli. Thomas W. Salmon.
72 Report of Three Medicolegal Cases Involving the Diagnosis of Chronic Delusional Insanity. Sanger Brown.
73 Mercurial Nephritis. John M. Swan.
74 *The Cardiosplanchnic Phenomenon. Albert Abrams.
75 *The Etiology, Pathology and Diagnosis of Adrenal Hemorrhage. Leonard S. Dudgeon.

63. **The Visceral Manifestations of the Erythema Group.**—Osler's paper is a continuation of two former ones published by him in 1895 and 1900. In this he adds 11 new cases to those already observed, and analyzes the features of the whole group of 29 cases contained in the three papers. The conditions described were somewhat various, including different forms of erythema, certain cases of purpura, urticaria and edema. One of the most constant symptoms in the whole group, occurring in 25 of the cases, was recurring attacks of colic, showing visceral lesions. There was also acute nephritis in 14 of the cases, and hemorrhage of the mucous membrane in several. Other symptoms were less frequent, such as cardiac complications, swelling of the fauces, of the larynx in one case and brain symptoms in two. Seven deaths occurred in the series. The lesions varied in individual cases from time to time, but there was no question that all of them, with the extraordinary visceral symptoms, were manifestations of one and the same cause. Arthritis was present in 17 cases, but, as a rule, was slight. The very chronic cases, he says, may resist all therapeutic measures. Alterative courses of gray powder, with careful dieting, may be helpful. With angioneurotic edema nitroglycerin in full doses may be tried. In one case camphor did good. In such severe types as some in the series given, nothing seemed to arrest the progress. The chief danger is in the kidney complications. He mentions the importance of early precautions to prevent its progress, namely, protracted rest in bed and a milk diet, which, he thinks, are the best means at our disposal.

64. **Splenic Anemia.**—Two cases reported by Dock and Warthin indicate the clinical and anatomic peculiarities of a late and an early stage of Banti's disease; an older, splenic fibrosis and a more recent fibrosis of the liver, also stenosis and calcification of the portal vein. They ask, is the latter the primary condition, to which the splenic fibrosis is secondary, or is it the result of a portal or general intoxication, to which fibrosis of the other organs is also due? Other similar cases will be required to settle this question, but the cases reported, the authors think, favor the view that the symptom-complex of splenic anemia represents a group of varying pathologic conditions, the splenic condition being secondary.

65. **Skin Desquamation in Typhoid.**—Riesman notices the rarity of the condition and the lack of attention it has received, and says, in conclusion, that we can distinguish three varieties of desquamation in typhoid: 1. That confined to the roseolar spots; in some cases each spot has a little vesicle which passes into thin, scale-like crust. 2. That appearing as a sequel of sudamina. This is confined to the areas that have been the seat of sudaminal eruption. The desquamation is usually furfuraceous, but is sometimes scaly. It appears on the trunk and the proximal part of the limbs, but never on the distal parts of the extremities or on the face. 3. In some instances, as in the second case reported, there is an extensive, almost universal, desquamation either furfuraceous or lamellar, apparently independent of sudamina. In all probability it is a trophic change analogous to the shedding of hair. It affects the trunk and the roots of the limbs, rarely the face and distal parts. Usually the intensity of the desquamation is in relation to the severity of the fever.

66. **The Diagnosis of Typhoid.**—The following are the conclusions of Rucker's paper:

1. There is no single symptom on which alone an early diagnosis of typhoid fever can be made. It is only by careful consideration of the symptom-complex that a clinical diagnosis can be arrived at. 2. The most trustworthy, as well as the earliest, sign of typhoid fever is the presence in the circulating blood of the bacillus of Eberth. 3. The demonstration of the bacillus of Eberth in the blood is not beyond any fairly well equipped laboratory. 4. The bacillus of Eberth is found in the feces later than in the blood, but with comparative ease. The presence of the typhoid bacillus in the feces is of great value as a corroborative sign. 5. Its presence in the rose spots is a trustworthy sign, but has no advantages over the examination of the blood from other localities. 6. The serum reaction of Widal is seldom demonstrable during the earliest stages of typhoid fever. It is of value only in the higher dilutions.

67. **Hemianopic Hallucinations.**—Four cases are reported by Pick which seem to him to indicate the probability that such hallucinations may be induced by lesions in the optical tracts, either focal or functional. He points out the transition of elementary light phenomena of scotoma scintillans into real

hallucinations, which favors the idea that hemianopic hallucinations may be due to localized excitations in the optical tracts and not in the occipital lobe only.

71. **The Pseudodiphtheria Bacillus.**—Salmon describes in this article the special form of pseudodiphtheria bacillus which has been found occurring in the inmates of the Willard State Hospital. It appears in the shape of an elongated ellipse, two deeply-stained segments separated by an unstained portion, apposed base to base, usually rather equal, but sometimes one longer than the other, the short one being usually the thicker. Illustrations of both types are given, also of the appearance of such bacilli when they occur in pure cultures of the diphtheria bacillus. He thinks this type is possibly a distinct one, and its recognition as such would be a help in classifying diphtheria-like bacilli, for it is responsible for more difference of opinion in the examination of cultures from well persons than any of the pseudodiphtheria types.

74. **Cardiosplanchnic Phenomenon.**—The cardiosplanchnic phenomenon consists in the results of percussion over the lower portion of the cardiac region or the sternum in different postures. In the upright position the percussion sound will be resonant or possibly hyper-resonant. In the recumbent position it is dull and flat. Vigorous compression of the abdomen will exaggerate the phenomenon in all instances. Abrams points out the importance of this symptom as aiding in the differentiation of a dilated heart from a pericardial exudate. In the latter it will not be elicited. It will also be exaggerated in idiopathic syncope and vertigo, in vertiginous attacks of Glenard's disease, which may be attributed to defective splanchnic vasomotor mechanism.

75. **Adrenal Hemorrhage.**—Four cases are reported by Dudgeon, who notices the literature of the subject and its occurrence in regard to its relation with Addison's disease. He believes it is too early fatal to allow development of the symptoms of the latter. There is but one place where we are able to diagnose adrenal hemorrhage with any degree of certainty, and that is in the postmortem room.

Kansas City Medical Index-Lancet.

January.

76 *Inflammation of Glands of Bartholin a Cause of Rectal Fistula. J. M. Frankenburger.
77 The Face in Disease. Wm. Cott.
78 The Differential Diagnosis of Traumatic Neurasthenia and Hysteria. John Punton.
79 The Use of Thiersch's Solution in the Treatment of Typhoid Fever. Harry L. Heller.

76. **Rectal Fistula from Bartholinitis.**—Frankenburger calls attention to inflammation of Bartholin's glands as the cause of rectal fistula, reporting a number of cases. He thinks abscesses of these organs have received too little attention, considering the possible bad effects.

Memphis Medical Monthly.

January.

80 *The Surgical Treatment of Chronic Bright's Disease. M. Goltman.
81 The Importance of an Early Diagnosis of Uterine Cancer. W. W. McRae.
82 Some Observations on a Recent Series of 117 Abdominal Sections with One Fatality. J. A. Crisler.
83 *A Further Report on the Use of Intratracheal Medication in the Treatment of Catarrhal Diseases of the Lower Respiratory Tract. Richmond McKinney.
84 Streptococcic Infection of Wounds. Ira B. Bartle.

80. **Bright's Disease.**—Goltman reports several cases of decapsulation. He thinks it is indicated in any form of chronic Bright's disease in any case where the patient has at least a short lease of life before him. His own cases have been of the diffuse and parenchymatous varieties, but, according to Edebohls, the interstitial form does best. This seems paradoxical to him, but experience is the best guide. To get the most beneficial results the operation should be done when the heart and arterial system are not too much deteriorated. The better their condition, the better the prognosis.

83. **Intratracheal Medication.**—McKinney advocates intratracheal medication in severe catarrhal conditions, using mild guaiacol solution daily. A few cases are reported, taken at random from a large number, showing, he thinks, how beneficial this method of direct medication is in catarrhal affections of the lower respiratory tract.

Denver Medical Times.

January.

85 *Cancer of the Stomach—A Résumé of Cases from the Standpoint of Diagnosis and Medical and Surgical Treatment. James R. Arneill.
86 Inherited Syphilis. Sol. G. Kahn.
87 The Treatment of Acute Otitis Media Purulenta. Robert Levy.
88 Decapsulation of the Kidney for Chronic Nephritis with Report of a Case. E. S. Wright.

85. **Cancer of the Stomach.**—This article by Arneill covers the subject of stomach analysis and the diagnosis of gastric cancer. He says the persistent absence of HCl, the presence of lactic acid, long bacilli, yeast and retained food, with tumor and cachexia, in the vast majority of cases mean carcinoma. Even without the tumor, the diagnosis is justified. Positive diagnosis in the early stage is impossible. In an obscure digestive case which repeatedly shows an absence of free HCl and in which pernicious anemia has been excluded by careful blood examination, which continued to grow worse under good treatment, exploratory laparotomy should by all means be urged for diagnostic and, if indicated, for therapeutic purposes. He remarks on the failures of laboratory diagnosis in some of these cases, and thinks that, perhaps, the younger generation of physicians is apt to overestimate the value of such methods, while the older class minimize their importance.

Northwest Medicine, Seattle.

December.

89 Medical Ethics. A. P. Procter.
90 Tubercular Kidney: Symptomatology and Diagnosis. Caspar W. Sharples.
91 *The Surgical Problem in Prostatic Hypertrophy. (Concluded.) George W. Hawley.

91. **Prostatic Hypertrophy.**—Hawley's theory of the relief of prostatic hypertrophy is that it is not the prostate, but the adjacent urinary tract that demands relief. The trouble is due to displacement of the outlet and floor of the bladder from enlargement of the retro-urethral portion of the prostate. The only way to relieve the condition is by correcting the displacement, and the logical mode is by reduction. This is shown by the fact that operative methods improve urination by virtue of their power to reduce this displacement. While some of the methods employed partially or even completely accomplish reduction with comparative safety and others reduce the displacement at considerable risk, none does so with both safety and success. The problem being a simple mechanical one, reduction based on anatomic and mechanical rules should be the safest and best. His own method here suggested, and as tried on the cadaver, is to make Zuckerkandl's bi-ischial perineal incision, exposing the bulb of the urethra and the posterior half of the perineum, releasing the support of the latter by dividing the recto-urethral muscle just behind its attachment to the bulb, allowing the rectum to drop backward. The levators were then divided, enlarging the operative field, and the prostatic sheath opened along the under surface of the prostate from the apex to the base, separated from the lateral and undersurface of the retro-urethral prostate by the finger. After freeing the sheath the prostate was dislocated downward, and a section removed from the outer and lower portion of each lateral lobe. In each case operated on the reduction seemed to be complete. The retroprostatic pouch was obliterated, and good bladder drainage restored. In each case the urethra, bladder and ejaculatory ducts were uninjured, and enough of the prostate remained untouched to perform its functional purposes in all probability. He thinks this method is appropriate in early cases before the urinary tract has become infected and disorganized, because it can be done as an aseptic operation; because the urinary organs are uninjured, and the operative risk is small. The extent of operative interference required can be judged according to the conditions. He believes that this would be more effective than prostatectomy and less severe a procedure. The harm of removing the perineal support in the male is unknown, and is probably *nil*. The support of the bladder floor, following this method, would be maintained by the portion of the retro-urethral prostate remaining, and the cicatrix, filling in the perineum, would be low.

Medical Fortnightly, St. Louis.

January 11.

92 A Plea for the Early Recognition of Diseases of the Stomach. Milton H. Mack.
93 Consumptives in Colorado. W. T. Little.

Journal of the Michigan State Medical Society, Detroit.

January.

94 Bacteriology and Serum Therapy of Tetanus. E. M. Houghton.
95 The McGraw Elastic Ligature for Gastro-intestinal Anastomosis. S. Edward Sanderson.
96 Headache. Jeanne C. Solis.
97 Pathological Changes Following Lacerations of the Cervix. R. L. Morse.
98 Certain Facts in Regard to the Intermediate Group of Organisms. Guy L. Connor.

Journal of Advanced Therapeutics, New York.

January.

99 X-ray and Light in the Treatment of Tuberculosis. Russell H. Boggs.
100 Electrotherapy as a Specialty. A. W. Bayliss.
101 The Therapeutics of the Continuous Current. (Continued.) Margaret A. Cleaves.

Colorado Medicine, Denver.

December.

102 Soup Diet and Other Points in the Dietetic Management of Typhoid Fever. H. B. Whitney.
103 Operations on the Kidney; with Report of a Case of Nephroureterectomy. Chas. H. McLean.
104 An Outline of Albuminuria. Edward C. Hill.
105 Criminal Abortion. Minnie C. T. Love.

New Yorker Medicinische Monatschrift.

November.

106 Das heisse Vollbad (The Hot Full Bath). Friedrich Grosse.
107 Zur modernen Therapie (Modern Therapeutics). A. Herzfeld.

Providence Medical Journal.

January.

108 The Winter Quarters at Pine Ridge Camp. William H. Peters.
109 Remarks on Specimens Illustrating Certain Forms of Arterial Disease. Frank T. Fulton.
110 Remarks on the Anatomy of the Appendix. Arthur Hollingsworth.
111 The Doctor in Court. G. Edward Buxton.

New York State Journal of Medicine, New York.

January.

112 Kumyss of the Kirghis Steppes. E. F. Brush.
113 *Sea Bathing in Some Forms of Skin Diseases. Robert Abrahams.
114 *Stab Wounds of the Abdomen. Fred J. Douglas.
115 *Results from the Operative Treatment of Carcinoma of the Rectum. James P. Tuttle.
116 *School Hygiene and the Need of Medical Supervision in all Our Schools. H. Ernest Schmid.
117 *Ergot in Alcoholism, Morphinism and the General Class of Drug Habit Cases. Alfred T. Livingston.
118 *One of the Dangers of the Surgery of the Biliary Passages. E. D. Ferguson.

113 and 116.—See abstract in THE JOURNAL, xli, p. 1158.

114, 115, 117 and 118.—Ibid., pp. 1107 and 1108.

California State Journal of Medicine, San Francisco.

January.

119 Cases of Tuberculosis of the Genito-urinary Tract, with Remarks. George Chismore.
120 Peritoneal Adhesions. Their Symptomatology, Pathology and Prevention. E. E. Kelly.
121 What Is Conservatism in Mastoiditis? W. S. Fowler.
122 National Bureau of Medicines and Foods. H. H. Rusby.

Indiana Medical Journal, Indianapolis.

January.

123 Atypical Typhoid Fever. Henry Jameson.
124 Typhoid Fever—The Management of the Case. Samuel E. Earp.
125 Typhoid Fever; Course, Symptomatology and Diagnosis. George D. Kahlo.
126 The Surgical Treatment of Typhoid Fever. Thomas B. Noble.
127 Prophylaxis of Typhoid Fever. John N. Hurty.
128 Streptococcic Septicemia. James Y. Welborn.
129 Dr. Deaver's Work in Appendicitis. John B. Deaver.

Bulletin of the American Academy of Medicine, Easton, Pa.

December.

130 *How the Physician May Influence the Declining Birth-rate. Roland B. Curtin.
131 Necessity for a National Bureau of Medicine and Foods. H. Bert Ellis.
132 Examinations for Medical Licensure in 1902. Charles McIntire.

130.—See abstract in THE JOURNAL, xl, p. 1603.

American Medical Compend, Toledo.

January.

133 Dermoid Cyst of the Ovary, with Report of Four Cases. Joseph F. Fox.
134 Potable Water Supply for Cities. W. C. Chapman.
135 A Plea for Better Knowledge of Insanity Among General Practitioners. George C. Love.
136 Anesthesia and Anesthetics. C. W. Moots.
137 Headache and Backache of Menstruation. Charles A. Dunham.
138 Catarrhal Diseases of the Upper Air Passages. Clarence G. Clark.

Nashville Journal of Medicine and Surgery.

November.

139 Surgery, and Its Daughter, Gynecology. R. E. Fort.

Maryland Medical Journal, Baltimore.

January.

140 A Year's Work in Appendicitis. Randolph Winslow.
141 Are Tenotomies for Hyperphoria Necessarily More Uncertain in Their Results Than Those for Esophoria and Exophoria? Samuel Theobald.

Journal of the Kansas Medical Society, Topeka.

January.

142 Rapid Histologic Methods. C. E. McClung.
143 Argyrol. J. W. May.
144 The Newer Texts in Anatomy. George H. Hoxie.
145 Septic Infection. H. J. Stacey.
146 Diagnosis and Treatment of Fistula in Ano. J. M. Poindexter.

Medical Times, New York.

January.

147 Notes on Management of the Insane. Q. W. Hunter.
148 Recent Researches in Nervous Diseases. C. Williams.
149 Remarks on the Etiology and Diagnosis of Puerperal Sepsis. N. Schilling.
150 Forceps and Other Mechanical Aid in Obstetrics: Use and Abuse. W. A. Rohlf.
151 Heart Conditions Due to Anemia and High Arterial Tension. M. Shellenberg.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

January 9.

1 *Address on Operative and Expectant Treatment in Ectopic Pregnancy. G. Ernest Herman.
2 *Abdominal Operations During Pregnancy. Edward T. Thring.
3 Operative Treatment of Uterine Myomata. Roderick Maclaren.
4 *Forcible Dilatation of the Cervix in Accouchement Forcé, More Especially by Means of the Bossi and Frommer Dilators. J. M. Munro Kerr.
5 *Observations on the Pathogenesis of Gout. Chalmers Watson.
6 Glandular Fever. John W. Byers.
7 Notes on the Distribution of Cancer in the Freebridge Lynn Rural District. Charles B. Plowright.
8 A Note on Dr. Primerose's Paper on Filariasis. Patrick Manson.
9 The Life-span of the Guinea Worm. Arthur Powell.

1. **Ectopic Pregnancy.**—The importance of early operation in ectopic pregnancy is pointed out by Herman, who thinks that even the inexperienced in surgery who is posted as to antiseptic methods should not hesitate to operate in emergencies, and especially in the case of great intraperitoneal bleeding. In the case of tubal mole, absorption usually takes place, but the danger of removing one is far less than that of leaving it. As regards the operation, he prefers the vaginal method as avoiding shock and exposure of the intestines. If the case passes to the second half of the pregnancy the danger diminishes. From the end of the first half of the ectopic pregnancy until the beginning of suppuration, the patient is in practically no danger. When spurious labor takes place the placenta usually becomes thrombosed and the danger of operation is lessened, but we can not tell how soon this may occur. When suppuration is begun, however, as indicated by the presence of fever, there should be no delay. The results of operation under such conditions ought to be as good as under those of abdominal operations generally. In case the child develops in the broad ligament it may be best to open the sack by a vaginal incision, thus avoiding infection of the peritoneum; the placenta need not be removed. Herman does not, however, advise vaginal operation unless it is certain that the tissues between the vaginal canal and the fetus are thin and that one end of the fetal ovoid points downward; still less if there is doubt as to the diagnosis.

2. **Abdominal Operations During Pregnancy.**—Thring concludes from his experience that all cases of acute infective diseases during pregnancy involving either the appendix, the tubes, the gall bladder or the bile ducts, should be treated as if the pregnancy did not exist. In this way we act in the best interest of the patient and their unborn children. Three cases are reported.

4. **Forcible Dilatation of the Cervix.**—Kerr states his views as regards Bossi's or Frommer's dilator as follows:

1. When the cervix is obliterated and the os will admit the dilator without difficulty, dilatation can be carried out in about twenty-five minutes, and there will be little or no laceration.

2. In cases where the pregnancy has advanced to or near term, even although the cervix is not obliterated, dilatation may be accomplished with comparative safety to the cervix, provided care, time and patience are expended in the operation.

3. In cases of early pregnancy with the cervix unobliterated there is a decided risk of extensive lacerations, even though the greatest care is taken.

5. **Gout.**—Chalmers Watson has utilized a case of gout occurring in the barn-yard fowl as bearing on the question as to the toxic principle and factors of the disease. This paper is illustrated with microscopic sections, and the conclusion he reaches favors the theory of an infection by bacteria or their products. He thinks that the clinical features of gout in all its forms are explained best by this theory which does not, however, by any means diminish the importance of the attention to dietetics in the treatment of the disease.

The Lancet, London.

January 9.

10* Address on the Future of Electro-therapeusis. Isambard Owen.
11* Sterility. Peter Horrocks.
12 Seven Cases of Cesarean Section. J. B. Hellier.
13* Kelly's Method of Cystoscopy in the Female. Thomas Wilson.
14 Glandular Fever. John W. Byers.
15* Pathogenesis of Deafness due to Chronic Non-suppurative Middle-ear Disease. D. Chalmers Watson.
16 The Operative Treatment of Hernia in Infants and Young Children. Illustrated by 114 Consecutive Cases. Robert Campbell.
17* Tuberculosis of the Tonsils in Children. L. Kingsford.
18* Preliminary Note on the Prophylactic Action of Garlic against Tuberculous Diseases. Giulio Cavazzani.

10. **Electrotherapeusis.**—Owen thinks that much of the present literature of electrotherapeutics will be relegated to obscurity, but that there is a certain residue of established facts. He mentioned as included in this, the work with the *x*-rays, the subject of phoresis, which he thinks has yet to be developed, and the part that electrotherapeutic work has played in bringing about a fuller consideration of the physical forces which have to do with the intimate life of the cell.

11. **Sterility.**—Horrocks reviews the whole subject of sterility, showing the essentials of fecundation; a living ovum and spermatozoon which shall meet and coalesce in a suitable place and that the ovum after impregnation shall be in a healthy uterine cavity, where there is nothing to prevent its developing. As regards treatment, he thinks that many cases can be left alone, at least until sufficient time has elapsed to demonstrate the absoluteness of the condition. Spare diet and plenty of exercise will favor fertility, and if the patient has not been healthy suitable tonics may be given. Change of climate and environment has also been beneficial, and if there is any suspicion of specific disease the proper treatment should be advised. Local diseases of the genitals, such as ovaritis, endocervicitis, etc., may call for special measures. Regular natural habits are mentioned as also essential. It should be remembered that in a certain proportion of cases the sterility is on the part of the husband, and this matter should also be investigated.

13. **Kelly's Method of Cystoscopy in the Female.**—Wilson advocates Kelly's method of cystoscopy of the female bladder with air dilatation, as a valuable diagnostic method. It often prevents an erroneous opinion and frequently renders more definite a partial correctly formed conclusion.

15. **Deafness from Chronic Ear Disease.**—Watson believes in a closer and more systematic study of all cases of deafness due to chronic non-suppurative middle-ear disease as leading to a reversal of the opinion generally held as to the absence of clinical indications of catarrh in the group of cases variously described as sclerosis of the middle-ear, atrophic catarrh, otosclerosis, etc. Cases seen only at rare intervals will not suffice. If the known facts of morbid anatomy and pathology of cases of chronic non-suppurative middle-ear disease are brought into line with similar facts in the pathology of other mucous membrane and joint structures the impression is forced on us that the different conditions described are only variants of one morbid process. In over 200 cases observed by him, in every case there was either a clear history of frequent colds in the head or, in patients who definitely declared they were not subject to colds, unequivocal evidence of an intercurrent catarrh in the course of the few weeks in which these patients were daily observed. They had not taken due notice of themselves. He has also called in comparative pathology and studied the conditions in deaf dogs. He believes that we have in all cases to do with local reaction to bacterial invasion by way of the eustachian tube. We must also bear in mind the possibility of infection by means of the blood, which probably is a factor in many cases.

17. **Tuberculosis of the Tonsils.**—From the cases here reported and from the investigations of others, Kingsford deduces the following conclusions:

1. Tuberculosis of the tonsils, especially in cases with tubercle elsewhere, is fairly common, though the disease is usually latent. 2. Tonsil tuberculosis may be primary, and, indeed, the only seat of the disease in the system, though this is rarely the case. 3. The usual method of infection is by the blood stream in children from an older focus elsewhere. 4. Infection may also occur by the sputum in children. 5. When the tonsils are tuberculous the corresponding cervical glands become affected, and, 6. sometimes where it is probable that the infection entered through the tonsils they were quite healthy, but the adjacent cervical glands were tuberculous.

18. **Garlic in Tuberculosis.**—Alluding first to a former paper in which he had published the favorable results obtained in treating pulmonary phthisis with garlic, Cavazzani reports the results of experiments of garlic feeding of guinea-pigs. In eight guinea-pigs he insufflated dried and powdered tuberculous sputa into the larynx and kept the animals two days longer in a room impregnated with the same powder. Two guinea-pigs were kept as controls, while three of the remaining six were fed with one grain daily of garlic juice for a fortnight, and the other three received the same quantity for about three months altogether, then the animals were killed. The two control cases were tuberculous throughout the abdominal organs and the lymphatic system and the *Bacillus tuberculosis* was isolated. In the bodies of the three animals which had been treated with garlic for a short period he found from ten to twenty tubercles in the liver and spleen. Microscopic examination did not reveal the bacillus but showed the presence of young connective tissue in the tubercles. In the other three that had been treated longer with garlic, no tubercles were found after the most minute examination. While the small number of experiments prohibits the drawing of conclusions, Cavazzani says that if further experiment in this line should bear out these results and prove that guinea-pigs at least can be prevented from contracting inhaled tuberculosis, it may suggest the possible discovery of a treatment for the human species.

Indian Medical Gazette, Calcutta.

December.

19 The Biological Disposal of Sewage. E. C. MacLeod.
20 Malaria: As Seen in the Andamans Penal Settlement. (Continued.) Ernest E. Waters.
21 The Health of the District of Jessore, and how to Improve it. H. Sen.
22 Suicidal Hanging: Deaths from the Secondary Effects. J. T. Calvert.

Australasian Medical Gazette, Sydney.

December 21.

23 Abdominal Operations during Pregnancy. E. T. Thring.
24 Some Surgical Experiences during the South African War. W. B. Nisbet.
25 Acute Septic Infection of the Left Temporal Bone, Occurring during an Attack of Measles. W. F. Taylor.
26 Aural Discharges. W. N. Robertson.
27 Fatal Icterus Neonatorum. A. A. Lendon.
28 Some Common Causes of Backache. George Cuscaden.

Intercolonial Medical Journal of Australasia, Melbourne.

November 20.

29 Typhoid Fever. A. V. M. Anderson.
30 Cesarean Section. M. U. O'Sullivan.
31 Post-nasal Growths: A Rejoinder. T. K. Hamilton.
32 Two Cases of Hypertrophic Stenosis of the Pylorus in Infants. E. Alan Mackay.
33 Three Eye Cases. (Traumatic Cataract, Traumatic Cataract with Extensive Posterior Synechiæ, etc). J. P. Ryan.

Bulletin de l'Académie de Médecine, Paris.

34 (LXVII, No. 41.) Prizes Awarded in 1903 and Prizes Offered for Competition in 1904, 1905 and 1906; 40 to 50 Each Year; Competition Open to Foreigners. See THE JOURNAL January 9, page 108.
35 (No. 42.) Inhalateur d'oxygène. Guglielminetti (Nice). Illustrated.

36 Tuning Fork in Exploration of Certain Organs. M. Mignon (Nice).—Emploi du diapason dans l'exploration de quelques organes.

37 *Treatment of Nephritis with Raw Kidneys. J. Renaut (Lyons).—Pouvoir sécrétoire et signification glandulaire des épithéliums des tubes contournés du rein, et valeur therapeutique de leurs préproduits solubles dans l'eau.

38 Report of Delegate to International Sanitary Conference, Oct. 10 to Dec. 3. 1903. P. Brouardel.

39 (No. 43.) Sur les quarantaines et le lazaret de Frioul. Discussion.

40 Répartition de la maladie du sommeil dans le Gouvernement général de l'Afrique occidentale française (sleeping sickness). Kermorgant.

37. Organ **Treatment of Nephritis.**—Renaut explains his conception of the mechanism by which the soluble and dialysable preproduct of the kidney secretion is elaborated. He regards this preproduct as a sort of antitoxin, and as antitoxin is not destroyed or modified in passing through the digestive tract, he believes that it is possible to supply the system with this preproduct or antitoxin in cases in which its production is interfered with by morbid conditions in the kidney. He and his pupils have established the existence of what he calls grains of segregation which accumulate in the supranuclear region of each epithelial cell in the convoluted tubules. These are accepted as the preproducts of the secretory activity; they include figured and spherical as well as fluid elements. If the convoluted tubule is dissolved in physiologic salt solution these yellowish, refracting bodies are plainly visible, resembling the grains of segregation of a serous gland, such as the parotid. They stain well with neutral red. He concludes from his researches that ingestion of these preproducts is an efficient remedy for nephritis. He gives the particulars of three typical cases out of a large number thus treated since last March. The results are tabulated and apparently confirm his assertions that this method of treatment has a rapid diuretic effect, and is one of the most active and effective yet known, even relieving the kidney in extreme anemic edema. When sufficiently prolonged it restores urination to normal and keeps it there, without having the slightest unfavorable action on the diseased kidney. It invariably reduces the proportion of albumin eliminated by the insufficient kidney. The only untoward effects observed from its prolonged use are occasional subtoxic symptoms (urticaria, sweats, slight gastric disturbance), but all are trifling. The process of disintoxication proceeds progressively and regularly, without mishap of any kind. Arterial hypertension and the tendency to passive dilatation of the heart have always receded under its influence when kept up long enough. He urges its early use in all cases of nephritis as an adjuvant to the usual measures, when the latter are not accomplishing all that could be desired. He prepares the remedy by chopping two or three fresh kidneys (pigs'), rinsing well to remove all the urine that may be still clinging to them. He then grinds the chopped organs and mixes them with 450 c.c. of a 7 per 1,000 salt solution which does not dissolve the grains of segregation at once. After thorough mixing, the dish is placed on ice for four hours and the supernatant fluid is then decanted and taken by the patient in three or four doses during the twenty-four hours. This maceration of the kidneys has no unpleasant taste, but to overcome any possible repugnance he orders it to be taken from a cup and a tablespoonful of tepid julienne soup added. After taking this maceration, prepared fresh every day, for ten days, it is suspended for five, which avoids the slight symptoms of subintoxication above mentioned. They indicate that the remedy is very powerful and similar in its action to that of therapeutic serums. The cases he describes in detail include one of chronic mixed nephritis, one of the interstitial type and one of cardiac albuminuria with cardiac kidney. The particulars are given in detailed tables and the prompt and enduring benefit derived from persevering use of the kidney maceration seems to be unmistakably apparent.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed XLI, page 156.

41 (XL, No. 1.) *Surgical Treatment of Perforation of Stomach. C. Brunner.—Weitere klinische Beobachtungen über Aetiologie und chirurgische Behandlung der Magenperforation und Magenperitonitis.—Ergebnisse der bakteriologischen Untersuchung bei Magenperitonitis.

42 Ibid. Experimental Research.

43 Entzündung und Gangrän des Meckel'schen Divertikels. H. Hilgenreiner (Prague).

44 Penetrating Lymphatics of Diaphragm. H. Küttner (Tübingen).—Die perforierenden Lymphgefässe des Zwerchfells und ihre pathologische Bedeutung.

45 *Ueber Stich- und Schuss-Verletzungen des Thorax. C. Borsziky (Ofen-Pest).

46 *Wund-Behandlung nach biologischem Prinzipe. L. Ibrig. (Ofen Pest).

47 *Ueber die suprakondyläre Osteotomie des Femur bei Genu valgum, mit bes. Berücksichtigung der definiten Knochen-Form. M. von Brunn (Tübingen).

48 (No. 2.) *Thrombosen und Embolien nach Laparotomien. G. Albanus (Hamburg).

49 *Surgery of Stomach. R. Stich (Königsberg).—Zur Magenchirurgie.

50 Case of Multiple Bone Cysts. H. Heineke (Leipsic).—Fall von multiplen Knochencysten.

51 Zu den retropharyngealen Tumoren. C. Brunner.

52 *Hygrom der Bursa trochanterica profunda. O. Lipffert (Tübingen).

53 *Accidents from Agricultural Machines and Their Prevention. B. Honsell (Tübingen).—Ueber Unfälle durch landwirthschaftliche Maschinen und ihre Verhütung.

54 (No. 3.) *Origin and Spread of Peritonitis, Especially the Appendicitic. P. Meisel (Freiburg).—Ueber Entstehung und Verbreitung der Bauchfellentzündung mit bes. Berücksichtigung der vom Wurmfortsatz ausgegangenen Entzündungen.

55 Artificial Substitution of Blood. H. Küttner (Tübingen).—Exp. Untersuchungen zur Frage des Künstlichen Blutersatzes.

56 Ueber die juvenile Osteoarthritis deformans des Hüftgelenks (of hip joint). M. v. Brunn.

57 Die Aneurysmen der Arteria occipitalis. A. Kappis. One case.

58 Ueber Cephalocele naso-frontalis. M. A. Ssamoylenko (Heidelberg).

59 Die Dauererfolge der Orchidopexie nach Nicoladoni. O. Burkard (von Hacker's clinic, Graz).

60 Zur Statistik des Carcinoms der Unter-Lippe. H. Ebel (Wölfler's clinic, Prague).

41 and 42. **Surgical Treatment of Perforation of Stomach.**—Brunner reports one patient saved by operative intervention out of 6 patients operated on. All such cases in which no operation was performed terminated fatally. The interval ranged from sixteen to thirty hours. In the consequent peritonitis he generally found polyinfection with streptococci and colon bacilli predominating. He was able to cultivate also some anaërobic bacilli. He further reports numerous experiments with injection of human stomach content into rabbits. Comparatively large amounts of acid gastric juice were tolerated without inflammation. An amount of 4.5 c.c. was tolerated always without reaction; he injected as much as 40 c.c. in some of his tests. Thirty-three of the 44 rabbits thus inoculated survived. Injections of stomach content in which gastric juice was lacking almost invariably induced symptoms of peritonitis within three and three-quarter hours. Bacteriologic tests of the stomach content showed much less bacteria in the stomach content in cases of pronounced motor disturbances accompanied by hyperchlorhydria than with deficient or missing gastric juice secretion. Surgical intervention, in his experimental research, resulted more favorably the earlier it was undertaken after the perforation. He is convinced that stomach content containing hydrochloric acid is much less dangerous from the standpoint of infecting the peritoneum after perforation than when there is little or none of the acid. His experience also confirms the advantages of multiple drainage after suture of a perforated ulcer, draining both at the sides and over the symphysis.

45. **Wounds of the Thorax.**—Borsziky's experience impels him to the view that expectant treatment of injuries of the lungs does not afford such bad results and radical intervention does not afford such good results that the latter method of treatment should be preferred to the former in all cases. More than 342 stab or firearm wounds of the thorax have been treated at the Ofen Pest clinic during the last ten years. All but 4 recovered out of the 42 stab wounds and all but 11 of the 89 firearm wounds.

46. **Treatment of Wounds on Biologic Principles.**—Ibrig remarks that we have no means to arrest nor to attenuate already established infection in a wound which does not at the same time destroy or reduce the vitality of the living tissue cells. The latter are the sole protecting agents, and everything should aim to favor them in their vital task of combating the infection. Anything that tends to reduce their vitality arrests the natural defensive processes of repair and promotes the infection, as the latter thrives best on degenerated cells. For

these reasons he rejects sublimate and carbolic acid, and devotes his attention to removal of all devitalized tissue, mechanical cleansing of the parts and keeping germs away from them. He prefers a solution of CaCl .03 per cent.; $NaHCO_2$ .04 per cent. and sodium chlorid .9 per cent. This aids the physiologic processes without impairing the vitality of the cells.

47. **Osteotomy in Genu Valgum.**—Since 1878 there have been 172 operations performed at von Bruns' clinic on 138 patients on account of genu valgum. In the 147 linear supracondylar osteotomies the operation was done on both sides in 29 instances. The remote results in 22 cases have been so encouraging that this operation may be regarded as ensuring very good results, both from the functional and cosmetic points of view. Radiography shows that the desired result is attained more completely the more plastic the bones at the time. A modification of Macewen's technic is preferred, using a small chisel and working from the inner aspect. Constriction of the limb is not necessary. The operation concludes with fracturing the external corticalis by leverage in such a way as to increase the outward angle. No untoward effects were noted in any instance.

48. **Thrombosis and Embolism After Laparotomies.**—Albanus reviews the 53 cases of thrombosis which occurred at the Hamburg Hospital in six years in the 1,140 laparotomies. Pulmonary embolism followed in 18.9 per cent. of the cases. In 26 out of the 53 the operation had been undertaken on account of a tumor; in 18 for a suppurative process, and in 10 for appendicitis. Almost 50 per cent. of the cases of thrombosis were followed by embolism, that is, in 23, and 10 of these terminated fatally. Most of the subjects were between 31 and 40, and the majority were women. The percentage was thrombosis in 4.64 per cent. of the 1,140 laparotomies. In 2 per cent. there was serious pulmonary embolism. When the latter has occurred treatment should aim to prevent infection from septic air, and further embolism by absolute repose. When thrombosis is noted, everything tending to excite the heart and all mechanical influences should be avoided. In the above cases the operation had been very protracted in more than 50 per cent. In only a few instances was more than 50 gm. chloroform used. The veins in the left leg seem most predisposed. Preceding heart disease had been noticed in 7 cases.

49. **Surgery of the Stomach.**—In this article Garré's technic, accepted indications and results are described in detail, with a review of the literature. The material embraces 109 cases of cancer operated on and 50 not, with 63 benign stomach affections operated on and 30 unoperated ones. He operates in case of an ulcus when there is suspicion of cancer or perforation, in case of a repetition of acute hemorrhage or constantly recurring smaller ones, and when three systematic "ulcer cures" have not afforded appreciable relief. Also in case of extreme cicatricial constriction of the pylorus, in severe gastralgia from adhesions or ulcer and atonic conditions of the stomach, especially with pronounced dilatation of the organ. He prepares the stomach with a preliminary five to eight days' course of light diet, with nutrient enemata and injections of salt solution if needed. In case of carcinoma the stomach is given a daily rinsing. He prefers ether, and adds a few drops of ol. pini pumilion. to reduce the secretions, giving 1 to 2 eg. morphin half an hour to an hour before long operations, ice and cold tea soon after the operation, and milk the second day. He lays great stress on immediate saline infusion and rectal injection. The article concludes with a tabulation of similar statistics from 15 other clinics.

52. **Hygroma of Deep Trochanteric Bursa.**—Lipffert has observed 3 cases recently at Tübingen. In 2 the hygroma was of tuberculous origin as in 116 others on record; in 7 the affection was of traumatic, and in 1 of rheumatic origin. One of his patients was a man of 56, with two large tumors of this kind. Lipffert emphasizes the necessity for total extirpation.

53. **Accidents from Agricultural Machines.**—Honsell analyzes 176 cases, and urges the necessity for more and better protecting devices against accidents from feed-cutters, etc. He also remarks that the place where the machine has to stand may also be one of the factors in such injuries.

54. **Study of Peritonitis.**—This extensive monograph, with its wealth of details and practical suggestions, is too comprehensive for a brief summary.

Deutsches Archiv f. klinische Medizin, Berlin.

Last indexed XLI, page 1442.

61 (LXXVIII, No. 3-4.) *Study of Scarlet Fever, Especially the Blood Findings. G. Jochmann (Hamburg).—Bakteriologische und anatomische Studien bei Scharlach mit besonderer Berücksichtigung der Blutuntersuchungen.

62 Fever and Glycogen Metabolism. Rolly.—Exp. Untersuchungen über Wärmestich Hyperthermie und Fieber, mit bes Berücks. des Glykogenstoffwechsels.

63 *Ueber Palpation und Auskultation des normal grossen Pylorus und deren Bedeutung für die sogen. Phantom-Tumoren im Abdomen. P. Cohnheim (Berlin).

64 *Influence of Water, Albuminoids, Carbohydrates and Fats on Secretion of Gastric Juice in Man. G. Lang (St. Petersburg).—Ueber den Einfluss des Wassers, etc.

65 Temperature of Skin in Febrile Conditions. T. Grünenwald (Tübingen).—Ueber Hauttemperaturen bei fiebernden Kranken.

66 Ueber Myasthenie und myasthenische Reaktion. H. Steinert (Leipsic). One case.

67 Ueber Eventratio diaphragmatica. F. Glaser (Berlin). One case.

68 Origin of Glycogen in Body Albumin. C. Hirsch and Rolly (Leipsic).—Zur Frage der Entstehung von Glykogen aus Körpereiweiss.

69 (Nos. 5-6.) *Die Aetiologie und Pathogenese der Aorten-Aneurysmen. H. Arnsperger (Erb's clinic, Heidelberg).

70 Klinische Untersuchungen über den osmotischen Druck des Blutes (osmotic pressure of blood). A. Landau (Dunin's clinic, Warsaw).

71 *Theorie und Praxis der Behandlung eingeklemmter Brüche durch Atropin (incarcerated hernia). Hagen.

72 Pathologische Vererbung und genealogische Statistik. W. Weinberg (Stuttgart).

73 Ueber Pubertäts-Albuminurie. F. Lommel.

74 Ueber traumatische Lungen-Hernien ohne penetrierende Thorax-Wunde. A. Bickel (Ebstein's clinic, Göttingen).

75 Eustrongylus gigas im menschlichen Harn-Apparat mit einseitiger Chylurie (in urinary apparatus). Stuertz (Berlin).

76 Zur Symptomatologie der Nieren-Venen-Thrombose. H. Reese (Basle).

61. **Study of Scarlet Fever.**—Jochmann's research revealed the presence of streptococci in the blood of 25 out of 161 scarlet fever patients examined in the clinic. He also found streptococci in 75 per cent. of the scarlet fever cadavers examined. On the other hand, he encountered cases in which it was impossible to discover streptococci in the blood, tonsils or elsewhere in the living subject or the cadaver, especially the fulminating cases. He infers that the streptococci play an important part in the evolution of scarlet fever, but that they can scarcely be the true causal agent. The lesions and symptoms induced by the streptococci frequently overshadow the true scarlet fever process, but to date nothing is on record which establishes their etiologic connection with it. In nearly every instance he could trace the mode of entrance of the streptococci into the blood from the necrotic tonsil or soft palate into the submaxillary glands and thence into the general circulation. He never found any streptococci in the blood the first or second day of the disease. When streptococci are found in the blood the child has only a day or two to live—according to his experience. Streptococcus infection was not responsible for the nephritis in a number of cases in which it developed during the third week.

63. **The Normal Pylorus and Phantom Tumors in Abdomen.**—Cohnheim calls attention to the possibility of palpating the normal pylorus in certain subjects, usually those in whom the muscles are relaxed or where there is much emaciation. The subject lies horizontally, relaxing the epigastrium as much as possible, and drinks a glass or two of water. In favorable circumstances it is then possible to see the pylorus protrude, forming a tumor as large as a walnut, which travels upward two or three finger-breadths and then vanishes. When the phenomenon is not visible it can generally be palpated or the sound of the fluid passing through the pylorus be auscultated. There is no pain, and as the subjects grow fatter the phenomenon can no longer be detected. In 1 of his 16 subjects the normal pylorus was permanently palpable, owing to its large size. In general, however, a permanent lump at the pylorus indicates malignant disease.

64. **Influence of Various Substances on Gastric Secretions.**—In order to eliminate the influence of taste, appetite, etc., the substances tested were introduced into the stomach through a

stomach tube. Neither water, carbohydrates nor fats induced any appreciable secretion of gastric juice, but this always followed introduction of albuminoids. The latter are, therefore, the exclusive direct stimulators of the gastric juice secretion.

69. **Pathogenesis of Aneurism of Aorta.**—Six pages are devoted to the bibliography and nearly seventy to a review of it and discussion of 35 cases personally observed. The conclusions may be summarized almost in the one word: syphilis.

71. **Atropin in Case of Incarcerated Hernia.**—Hagen is an advocate of injecting belladonna or atropin when gentle taxis shows that the hernia is irreducible. He then waits one hour and applies gentle taxis once more. If it fails, he repeats the dose of the above. If two or three of these hourly doses fail to produce the desired effect he then operates, not waiting longer than six to eight hours at most. Atropin has proved particularly useful in elderly patients, saving them an operation. He describes 19 cases out of his experience with 41 during thirty-nine years, to confirm his claims as to the wisdom and efficacy of the above line of treatment. His experiments on animals have amply established its harmlessness. He prefers the extract belladonn. in the proportion of .1 to 10 or atropin sulph. in the proportion of .01 to 10. The first dose is usually .5 c.c., which may be repeated or doubled for the second dose an hour later.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

77 (XXX, No. 1.) *Relations of Anthrax Bacilli to Endothelial Cells in the Mouse and Guinea-Pig Body. E. von Behring and Much.—Ueber die Beziehungen der Milzbrandbazillen zu endothelialen Zellen im Mäuse- und Meerschweinkörper.
78 *Meine Erfahrungen mit dem Moser'schen polyvalenten Scharlach-Streptokokken-Serum. J. von Bokay (Budapest).
79 Exodin, ein neues Abführmittel (new purgative). W. Ebstein.
80 *Has Inflammation of the Cecum Become More Frequent? Villaret (Posen).—Ist die Blinddarmentzündung heute häufiger als früher?
81 Fall von traumatischer Hysterie mit eigenartigen Dammerzustände und dem Symptom des Vorbeiredens (with twilight conditions and inappropriate answering). A. Westphal (Greifswald).
82 *Die Behandlung der Blutungen nach der Geburt (postpartum hemorrhage). H. Fritsch (Bonn).
83 Attempts at Transmission of Syphilis to Animals. A. Neisser and F. Veiel (Breslau).—Einige Syphilis-Uebertragungsversuche auf Tiere.
84 Zur Behandlung des "Fluor albus" mit Vaginal-Zyminstäbchen (Dauerhefestäbchen) nach Albert (compressed yeast pencils). E. Fraenkel (Breslau).

77. **Relations Between Endothelial Cells and Anthrax Bacilli.**—Behring has recently announced in his *Beiträge* (December, 1903) that he has established a remarkable selective action on the part of the infectious substance circulating in the organism. The cells floating in the circulating medium are not the only bearers of the antitoxin, but certain fixed cells also possess this property of producing and storing the antibodies. Furthermore, this property is in the highest degree specific for certain kinds of cells and not for others in relation to a specific virus. For instance, the antibody for tetanus toxin is exclusively to be found in the ganglion cells of the nervous system. This discovery throws new light on the processes of intoxication in general, and the deductions from it have already been amply confirmed by experimental research conducted at Marburg. It has further suggested new improvements in the technic of artificial immunization by which the infectious process can be so guided and controlled that it is not only entirely harmless for the animal but enables the immunizing to be more complete and the production of antibodies materially augmented. He has established, besides, that the affinity between the tetanus toxin and its antibody produced in the ganglion cell does not explain all the phenomena observed after inoculation with tetanus toxin. A third agent must be present by which connection is established between the toxin and the intracellular antibody, as the cells of a battery do not generate electricity until they are connected by a conducting medium. In the living organism the part of the conductor is played by a substance in solution in the axis-cylinder, which serves as a conductor between, to transmit the stored-up energy in the tetanus toxin to the antibody fixed in the ganglion cell. He calls this intermediate substance "C" (conductor). The present article gives the details of the research undertaken to locate the site of the production of the antibody for anthrax bacilli. The results have established that the antibody for anthrax virus is elaborated in the endothelial cells. The conductor in this case he assumes to be a colloid solution of the antibody which exists normally in the intravascular fluids and intracellular tissue juices. The article is accompanied by colored plates to show the various phases of the production of the antibody and its passage into the circulating fluids in a colloid solution after oxyphile degeneration. The blood then acquires the property of agglutinating the bacteria which have induced the oxyphilia. This is evidently the result of specific attraction and a ferment-like, reciprocal action between the animal cell plasm and the vegetable bacteria plasm.

78. **Polyvalent Antistreptococcus Serum in Scarlet Fever.**—Bokay tried Moser's serum treatment in 12 cases, and was very favorably impressed with the results. No ill effect on the kidneys was apparent in any instance.

80. **Statistics of Inflammation of the Cecum.**—Villaret compares the statistics on this subject during the last twenty-seven years, as published by the German military authorities. He finds that all abdominal affections have become less frequent by 44.5 per cent. On the other hand, inflammation of the cecum has increased by 70 per cent.; liver affections have decreased by 64 per cent.; peritonitis by 70 per cent., and chronic stomach affections by nearly 80 per cent. The apparent increase in appendicitis and allied affections is thus merely the result of more careful differentiation.

82. **Treatment of Severe Postpartum Hemorrhage.**—Fritsch commends the advantages of his method of treating severe cases. He massages and pushes the uterus on and above the symphysis pubis and packs the space left with cloths or cotton from the rear, binding them tight with a roller bandage around the abdomen. The abdomen is thus pressed into a funnel shape. The body of the uterus rests on and above the symphysis, and its bleeding walls are pressed so tight together that there is no room for further hemorrhage. All the manipulations are extravaginal, and require no preliminary disinfection. Another method is to close the labia with one hand and push the vulva vigorously upward, exerting counter-pressure with the other hand, for half an hour.

Therapeutische Monatshefte, Berlin.

Last indexed XLI, page 1377.

85 (XVII, No. 9.) *Ueber einen neuen Sphygmographen. G. Gaertner (Vienna).
86 *Pulmonale Narkose. F. Kuhn (Cassel).
87 *Zur Behandlung der Dysenterie in den Tropen. L. Köhler.
88 Trochlear Paralysis with Maxillary Sinusitis. G. Krebs.—Trochlearislähmung bei Kieferhöhleneiterung.
89 *Zur Diagnose und Behandlung rheumatischer Affektionen. (Concluded.) R. Bloch.
90 Ueber die Erweiterung der Cervix mittels Metal-Dilatatoren. R. Katz.
91 *Ueber Salizylsäureglyzerinester (Glykosal). H. Ratz.

85. **New Sphygmograph.**—The principle of the instrument is similar to that of Gaertner's pulse controller described and illustrated in these columns on page 527 of the last volume. The pulse wave is registered in a magnified projection and a curve can be obtained in a few minutes, affording invaluable information in regard to the pulse. It may be expected to be small when the arteries are naturally narrow or inelastic, when the tonus is high or the systolic maximal pressure is low. The latter depends on the average blood pressure and likewise on the amount of the variations in the pulse.

86. **Lung Narcosis.**—Kuhn here suggests and commends his method of intubation through the nose or mouth deep into the throat as a means of introducing the anesthetic directly into the lungs. By this means it does not come in contact with the throat or nose, and reflex action is eliminated. Much smaller amounts are required, and there is no vomiting.

87. **Treatment of Tropical Dysentery.**—Köhler of Caracas, Venezuela, has derived great benefit from an infusion of cortex granati, cortex simarubæ and Campechy wood. They are used alone or in combination by the native physicians, and the failure of the classic methods of treatment he had learned at home, compelled him to try this South American remedy. Improvement was always marked within twelve hours, and he

never witnessed any untoward effect or intolerance in hundreds of cases thus treated. Water is poured over the roots broken up into small pieces, and the dish is set in the sunshine. It is ready to use by the end of the day. One tablespoonful is taken every twelve hours, with a daily injection of a quart of sterilized water. No food is allowed but boiled milk.

89 and 91. **Glykosal in Rheumatism.**—Bloch and Ratz in a following article extol the efficacy of this glycerin ester of salicylic acid. Bloch asserts that if it does not cure the pain the latter is certainly non-rheumatic.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed XLI, page 1508.

92 (L. No. 2) *Zur Pathologie der Neonatorum: 3 Fälle von Tod sub partu oder unmittelbar postpartum; Leberangiom beim Neugeborenen; Cyclopos. F. Hammer (Würzburg).
93 Fall von Endothelioma ovarii lymphaticum cysticum. E. Schürmann.
94 *Ueber die Kombination von Carcinom und Tuberkulose des Uterus. J. Wallart.
95 Lipoma fibro-myomatosum uteri. O. Seydel (Berlin). Two cases. Eleven on record.
96 Zur histologischen Diagnose des Abortes. L. Seitz. Reply to E. Opitz.
97 *Curability of Carcinoma. R. Lomer (Hamburg).—Zur Frage der Heilbarkeit des Karzinoms.

92. **Pathology of the Newly-Born.**—Among the cases described by Hammer are 3 in which the death of the infant during or immediately after birth might have proved puzzling in a forensic case. In one, degeneration of the heart muscle was found and in another indications of a chronic inflammation of the placenta. In the third, nothing could be discovered, even with the microscope, in the fetus or placenta to which the immediate death could be attributed. A case is described in which an angioma cavernosum in the liver of a seven days' infant was discovered only with the microscope. In the case of the cyclops described, the infant bore no other trace of malformation.

94. **Combination of Tuberculosis and Carcinoma.**—Wallart has observed 3 cases of this combination, and reviews 54 works that have been published bearing on the same subject. In only one of his 3 cases were the two affections so strictly localized and so remote that the coincidence must have been casual.

97. **Curability of Cancer.**—Lomer's article has been already mentioned in these columns, page 207. He has found recorded in the literature 213 cases of carcinoma treated by electro- or thermo-cauterization in which there had been no recurrence after a minimum of two years; the interval was more than five years in 149 cases. This list includes a large number that had been previously branded as inoperable, and the success of his intervention surprised the operator, who had applied the actual cautery merely *ut aliquid fiat*. Such instances establish the fact that the body is sometimes able to cope with the relics of a carcinoma focus. In certain cases fever seems to have co-operated in this favorable outcome. The facts observed suggest that a febrile course after a cancer operation or as a symptom of some accidental infectious disease or severe burn seems to have promoted the healing process. The successful results observed after inoculation with erysipelas, streptococci or malaria are probably due to the accompanying febrile temperature. He mentions the toleration of cancer subjects for extensive losses of blood, and the fact that robust, plethoric individuals seem the most predisposed to rapid recurrence. Profound changes in the composition of the blood seem to have a curative tendency in cancer cases. These premises suggest the possible efficacy of serum treatment with an anticancer hemolytic or epithelium serum. Researches in this line are now under way, but Lomer says that they have not progressed sufficiently for publication as yet. The aim of treatment should be to induce in the organism conditions similar to those that prevail during the natural healing process when the body is annihilating the relics of a cancer focus. If cases in which this has occurred are studied more closely, it may be possible to discover some of these conditions and reproduce them artificially. The article concludes with Lomer's own experiences and statistics. Among the cases he describes is one of a recurring cicatricial mammary cancer. One-half of the new growth was extirpated; the remaining half was treated by a row of injections of his epithelial serum around it, as also an enlarged gland in the axilla. Both entirely retrogressed under this local treatment. Possibly any other serum might have been as effective, he says, but this and other cases establish the possibility of retrogression of a cancer. He outlines his theoretical plan of treatment as: 1. Systematic, repeated thermocauterization of every suspicious point in the cicatrix after extirpation of operable growths, and repeated applications in the inoperable cases. The patients must be supervised at six-week intervals at farthest. 2. Local applications of heat, sweat or light baths or girdles, and hot compresses after extirpation. 3. Energetic arsenic medication at once, supplemented by potassium chlorate. Commenced at once, arsenic offers better prospects of efficacy than after a recurrence has already developed. 4. Systematic irrigation of the vagina with a solution of potassium chlorate. 5. Injections for the purpose of inducing fever, possibly of staphylococcus toxin. This is merely an outline of treatment tentatively suggested by his research. His actual experience has repeatedly shown that after two or three applications of the searing iron a previously inoperable cancer could then be successfully extirpated. He has one patient cured for five and a half years after thermocauterization and extirpation of a cancer, and then of its recurrence. As he reviews the literature he notes that the occasional long survivals are always regarded as "accidental cures." The laws governing them have yet to be determined. Among the principal problems now pressing for solution are: 1. The action of epithelium serum and hemolytic human serum on visible carcinoma. 2. Whether leucocytosis occurs in cancer subjects, and especially whether it occurs independently of ulceration. 3. The behavior of cancer subjects in regard to soluble bacterial toxins (tuberculin, staphylotoxin). 4. Whether the causes of the lesser tendency of cancer subjects to acquire infectious disease are due to a histogenic, bactericidal or antitoxic immunity. 5. Whether the blood of cancer subjects contains toxic substances which induce cachexia (study of the isotoxins) and hemolytic and agglutinating substances in comparison with normal human blood. 6. Treatment of carcinoma subjects with organic and anorganic blood poisons (potassium chlorate, arsenic, pyridin or phenylene diamin), and, 7, behavior of the resistance of the red corpuscles of carcinoma subjects *in vitro*, in respect to various blood poisons.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed XLI, page 1309.

98 (L. Nos. 5-6.) Distribution of Nitrogen in Pathologic Urine. M. Halpern.—Zur Frage der Stickstoffverteilung im Harn in pathologischen Zuständen.
99 *Fluids in Dietetics of Kidney Affections. L. Mohr and C. Dapper.—Ueber den Einfluss vermehrter und verminderter Flüssigkeitszufuht auf die Funktion erkrankter Nieren.
100 Tumors in Small Intestine. C. Gutmann.—Multiple Dünndarmgeschwüre, höchst wahrscheinlich syphilitischer Natur.
101 Orcin-Iron Chlorid Reaction in Study of Carbohydrates and Albuminoids. M. Bial.—Ueber die Verwendung der Orcin-Eisenchloridreaktion zur Untersuchung von Kohlehydraten und Eiweisskörpern.
102 *Fall von Tetanus. A. Ignatowsky and F. Rosenfeld.
103 Metabolism of Mineral Constituents in Phthisis. A. Ott.—Zur Kenntnis des Stoffwechsels der Mineralbestandtheile beim Phthisiker.
104 *Studien über Nephritis. F. Erben (Vienna).
105 Auscultation of Heart Region. L. Syllaba.—Einige Erfahrungen über die Auskultation der Herzgegend.
106 (LI. Nos. 1-2.) *Experimentelle Studien über die akute Herzdilatation (dilatation of heart). De la Camp (Berlin).
107 Lactic Acid Fermentation in Stomach. G. Sandberg (Cologne).—Zur Bakteriologie der milchsäuren Gärung im Magen mit best. Berücksichtigung der langen Bacillen.
108 *Zur Pathologie und Therapie der Pankreas-Erkrankungen, mit bes. Berücksichtigung der Cysten und Steine. P. Lazarus.
109 Heart Failure from Diphtheria Toxin. K. v. Stejskal (Vienna).—Kritisch-experimentelle Untersuchungen über den Herztod infolge von Diphtherietoxin.
110 (Nos. 3-4.) Ueber die Präcipitine der Verdauungsprodukte (of products of digestion). G. L. Sacconaghi (Pavia).
111 Zur Localisation der Hemichorea. Aufschlager (Naunyn's clinic, Strasburg).
112 Ueber die Glycogen-Reaction der Leukocyten. J. Sorochowitsch (von Leyden's clinic, Berlin).
113 *Zur Kenntniss des Salzstoffwechsels mit bes. Berücksichtigung der chronischen Nephritiden (salt metabolism in nephritis). E. v. Krozlczkowsky (Senator's clinic, Berlin).
114 *Eliminating Capacity of the Diseased Kidney. L. Mohr (von Noorden's clinic, Frankfurt a. M.).—Ueber das Ausscheidungsvermögen der kranken Niere.

115 Zur Kenntniss der Erkrankung des Larynx und einer noch nicht beschriebenen Veränderung in der Schleimhaut der Nebenhöhlen der Nase bei Leukämie. K. M. Menzel (Schlesinger's clinic, Vienna).

99. **Fluids in Dietetics of Nephritis.**—It has been found at von Noorden's clinic that restriction of the intake of water had a favorable influence on the subsidence of edema. In both acute and chronic nephritis a moderate ingestion of water—not more than a quart and a half—had a more favorable action on the relations between the intake and output of water than a more copious supply. The elimination of nitrogen and the phosphates was not materially affected by it in acute nephritis and in case of contracted kidney. Restriction of the intake of water to less than 1,250 c.c. interfered with the elimination of these substances. It seems advisable, therefore, to interpose an occasional day of copious drinking in order to flush out these substances when, for any cause, the intake of fluids has to be restricted in general. If the kidneys are functionally insufficient or if there is no accumulation of material for the production of urine, there is no washing out of these substances when this is done. In cases of contracted kidney the albuminuria increases when the water is restricted, as a rule, but subsides again in time. This influence on the albuminuria was not noted in the later stages of acute nephritis.

102. **Formation of Antitoxin in a Case of Tetanus.**—The injection of tetanus antitoxin may prevent the toxin from combining with the cells, but it is powerless to neutralize the toxin already in combination with the nerve centers and other organs. This fact has been confirmed anew by the case described in this article. A woman of 29 succumbed in four days—notwithstanding energetic antitoxin treatment—to tetanus that developed consecutive to an abortion. Examination of the urine, cerebrospinal fluid, serum, spinal cord, liver, brain, kidneys, spleen and thyroid gland, showed an abundance of free antitoxin in the serum and urine, but the toxin was in such stable combination with the organs that large proportions of antitoxin were unable to neutralize it, even *in vitro*.

104. **Chemistry of Blood in Nephritis.**—In a case of parenchymatous nephritis, one of subchronic nephritis and one of secondary contracted kidney, examination of the blood showed a marked deficiency in albumin, as well as other abnormalities. The lack of albumin induces albumin hunger in the cells, which in turn causes a stronger current of blood through them and by reflex influence enhances the heart action, with consequent hypertrophy of the heart. The precipitin reaction in the cases mentioned showed that the globulin in the nephritic urine was mostly normal serum globulin.

106. **Acute Dilatation of Heart.**—De la Camp announces as the summary conclusion of his laborious research that acute dilatation of the heart after maximal physical exertion is never observed except when the integrity of the organ is already seriously impaired.

108. **Pancreas Affections.**—Lazarus traces the history of the pancreas back to Hippocrates and down to Oser's latest work on the subject in 1902. He discusses its topography, and emphasizes the facts that none of the arteries supplies blood exclusively to the pancreas, and that it does not lie between the sheets of the transverse mesocolon, as generally accepted, but rather above it, and between the sheets of the dorsal omentum, which is connected only secondarily with the mesocolon. He reviews the experiences at von Leyden's clinic, Berlin, and tabulates the data of 14 cases, with several cuts. The article is continued through the following number. He noted trauma in the etiology of 30 per cent. of the cases of cyst in the pancreas.

113. **Salt Metabolism in Nephritis.**—This article corroborates the new theories as to the transcendent importance of salt in the diet of certain forms of kidney disease. The elimination of phosphates and sulphates is not modified like that of the chlorids by the nephritis. There does not seem to be any parallelism between the amount of the urine and the percentage of salt in it. We have no grounds for assuming that the output of salt is proportional to the output of water, but the assumption is being confirmed that retention of salt influences the retention of fluids. The percentage of salt in the body fluids in case of edema remains at a constant figure. The percentage in the urine varies with the presence and amount of edema, diminishing as the latter increases and vice versa. Evidence to date shows that the retained salt is stored in the tissues as well as in the body juices. Evidence is also accumulating to show that the retention of salt is the result principally of disturbances in the circulation. This has been established in case of non-nephritic effusions. The amount of salt in the urine in general and during nephritis in particular, may serve as a standard for the severity of the disease. A larger proportion succeeding to retention may be regarded as always a favorable sign. A low percentage, especially when it can not be increased or only temporarily, indicates a more serious condition. The above facts suggest the necessity for expelling the retained salt as an important factor in the formation of edema. The salt can be washed out of the system in most cases by administration of diuretin and heart tonics. The clinical course of a number of cases of nephritis with edema is given in separate tables, proving the remarkable improvement liable to be derived from diuretin combined with digitalis or caffein. The heart tonics alone are able to increase materially the output of salt, and in all forms of nephritis particular attention should be paid to the heart, using heart tonics and other measures for strengthening the heart, with carbonated baths well to the fore. Likewise, in all forms of nephritis, particular attention should be devoted to the intake of salt. The ordinary .91 per cent. saline solution should not be used for infusion in these cases, but always a hypotonic solution, as Senator has already advocated for other reasons. The intake of water should be restricted only to an extent which does not interfere with the excretions and general forces of the organism. If restriction of the amount of water does not accomplish the desired purpose, then the intake of salt should be reduced and its elimination promoted by the above medication.

114. **Eliminating Capacity of Diseased Kidney.**—Mohr gives various tables of the clinical course in several cases of nephritis. Analysis of them shows in common a fluctuating elimination of water, salts and nitrogen, but the elimination of NH_3 and of the purin bases was good in each. One case was accompanied by considerable edema and retention of salt. Therapeutic administration of salt in this case was followed by a sudden and enormous elimination of salt, revealing the large amounts that had been retained. On the whole, Mohr accepts as the only fact yet positively established in this line that disease of the kidney may entail retention of any of the elements of the urine, and that the kidney eliminates certain of these elements easier than others. Whether this elective elimination resides in the kidney itself or elsewhere, or in the nature of the substances, is yet unknown.

Rivista di Patologia Nervosa e Ment., Florence.

Last indexed XL, page 291.

116 (VIII. No. 4.) Nuove ricerche sulle vie piramidali nell' uomo. F. Ugolotti.
117 Contributo allo studio anatomo-clinico del lemnisco principale. S. Sergi.
118 Il dermographismo nei pazzi (in the insane). Verga and Gonzales.
119 (No. 5.) Polinevrite ed arterio-sclerosi del sistema nervoso centrale e periferico. F. Franceschi. One case with secondary degeneration of the lemniscus and posterior longitudinal fasciculus; 21 cuts.
120 Contributo sperimentale allo studio delle localizzazioni motorie spinali e la metameria secondaria degli arti. G. Perusini.
121 (No. 6.) Sulla minuta struttura della ghiandola pituitaria nello stato normale e patologico. M. Collina (Bologna).
122 (No. 7.) *Contributo clinico e anatomo-patologico allo studio dei gliomi cerebrali e all'anatomia delle vie ottiche centrali. R. Righetti. (Commenced in No. 6.)
123 Alcuni casi di pseudo-pellagra in Sicilia. G. Garbini.
124 Del riflesso cremasterico e della contrazione volontaria dei muscoli cremasterici. G. Perusini.
125 (No. 8.) Doubt in Psychasthenia. N. Majano.—Sulla patogenesi del dubbio nelle psicastenie.
126 (No. 9.) Studi sperimentali sulla forma del sollevamento ergografico. L. Luglato. (Second article in No. 12.)
127 *Epilessia e sieroterapia. G. Catola (Florence).
128 Trichosi lombo-sacrale e spina bifida occulta. G. Garbini.
129 (No. 10.) Tabe incipiente Nevroma ed eterotopia del midollo spinale. Un focolaio de mielite acuta. R. Rebizzi. One case.

130 (No. 11.) *Sulla patologia delle cellule dei gangli sensitivi. E. Lugaro (Florence).
131 (No. 12.) Sopra un alterazione del corpo calloso osservata in soggetti alcoolisti. E. Marchiafava and A. Bignami.

122. **Study of Brain Gliomata and Central Optic Tracts.**—Two cases of glioma of the brain were observed at Tanzi's clinic and subjected to minute postmortem examination. The findings are given in 16 cuts, with careful analysis of the symptoms and pathologic anatomy. Righetti reviews the literature on the subject and finds 115 cases in which somnolence was mentioned as a prominent symptom of brain tumor. Classifying these cases according to the site of the tumor, he finds that the majority were located in or near the third ventricle and the hypophysis. This suggests a connection between the somnolence and the circulation at the base of the brain.

127. **Serum Therapy in Epilepsy.**—Catola gave Ceni's method of serum treatment of epilepsy a fair trial in 7 cases, but did not find it beneficial. He does not think it conforms to the phenomena of cell biology as we know them, but rather conflicts with our knowledge of these laws. Guidi has reported a severe case apparently benefited, but this improvement, Catola thinks, should be ascribed to the concomitant suppression of alcohol and meat.

130. **Pathology of the Cells of the Sensory Ganglia.**—Lugaro is editor of the *Rivista*, and his article has been running through several years (V, Nos. 4, 6 and 9; VI, No. 10, and VII, No. 3). It is profusely and beautifully illustrated with 145 cuts, and is based on both clinical and histologic research and experimentation. He epitomizes his work in the statement that the diverse morphologic types observed in sensory ganglia may be regarded as differing not only anatomically, but also physiologically. They are found in the same proportions in similar ganglia in other subjects and animals of the same species, and each responds with a specific reaction after section of the peripheral nerve. The typical reaction is central chromatolysis with displacement of the nucleus, but there are many degrees of these modifications. They are manifestly the indices of changes due to the exceptional trophic activity of the cell during the period of the regeneration of the injured nerve fiber.

Russkii Vratch, St. Petersburg.

Last indexed page 279.

132 (II, No. 28.) *Study of Prolonged Alcoholic Hallucinations. S. A. Sukhanoff and I. N. Vvedenski.—O zatyazhnom alkoholnom bredye.
133 (No. 29.) Case of Hermaphroditismus Spurius Femininus Externus, and Study of Development of Hermaphroditismus in General. N. A. Batueff.—Slutchai lozhnago naruzhnago zhenskago hermaphroditizm v svyazi s utcheniem o razvitii hermaphroditizma voobshtche.
134 Artificial Monster. Ibid.
135 Hysterotomia Vaginalis Anterior. S. I. Rosenfeld.—K voprosu o vlagalishtchnom kesarskom syetchenii. Report of 2 cases.
136 (No. 30.) *Study of Diabetic Coma. V. F. Orlovski.—Iz klinitcheskikh nabliudenii nad tetcheniem diabetitchesko komy.
137 *Suppuration of Ovarian Cyst Due to Typhoid Bacillus. P. V. Zantchenko.—K voprosu o briushnotyphoznom nagnoenii yaitchnikovykh kist.
138 *Traumatitcheskii hydronephroz. I. I. Ryaboff.

132. **Prolonged Alcoholic Hallucinations.**—A prolonged—almost chronic—stage of hallucinations is liable to follow after attacks of delirium tremens—echoes of the preceding disturbances. Sukhanoff and Vredenski had occasion to observe 33 cases of this category among the 4,813 patients at the Moscow psychiatric clinic. All but 3 were men. They describe the points in which this condition differs from acute delirium and from alcoholic melancholia and paranoia, and comment on its curability. Many of the patients become alarmed at the persistence of the "voices," etc., and abandon alcohol completely. Hereditary predisposition was evident in 96.55 per cent. of the cases. Less than 12 per cent. of the 33 cases were educated persons, the majority were day-laborers, farm hands, etc.

136. **Diabetic Coma.**—Orlovski gives in detailed and tabulated form the analysis of 3 cases of terminal diabetic coma. The average amount of urine uring the three preceding days and during the coma was 2,617 c.c. and 1,800 in one case; 5,126 and 1,100 in the second and 7,167 and 782 in the third, notwithstanding the large amounts of water ingested and injected. The specific gravity of the urine was slightly reduced. In the first case no sugar was to be found in the urine during this period; in the second case it averaged 9.3 per cent. during the three preceding days and 4.65 during the coma; in the third case it averaged 8.55 before and 10.75 during the coma. No albumin in urine in the first case and merely traces in the others during the coma, and none during the three preceding days. The pulse during the preliminary period averaged 118, and during the coma 130 in the first case; 78 and 100 to 140 in the second, and 94 and 114 in the third. The respiration averaged 43 in the preceding period and 47 to 28 during the coma in the first case; in the second, 26 and 22 to 24, and in the third case 18 and 17 to 26. Diagnosis of the diabetes from the composition of the urine would have been impossible in one of the cases if the patient had not been observed before the onset of the coma. His patients were young officers or government officials, 24 and 25 years old. Acetone was present in the urine in both periods in all cases, and aceto-acetic acid was present during the coma in each case, but not during the previous three to six days.

137. **Typhoid Suppuration in Ovarian Cyst.**—Zantchenko refers to 3 cases on record in which an ovarian cyst suppurated and the typhoid bacillus was found in the pus, accompanied by a diplococcus in one instance. The cysts were all of dermoid origin, but in a case he has personally observed pure cultures of the typhoid bacillus were cultivated from a pseudo-mucinous cyst—the only case of the kind of which he has knowledge.

138. **Traumatic Hydronephrosis.**—Ryaboff records the case of a lad of 12 who had been kicked in the left side by a horse. The entire abdomen was painful and the boy vomited, with blood in the urine, when first seen the second day, and symptoms of hydronephrosis developed by the twenty-fourth day. After the failure of all other measures, nephrotomy was performed about six weeks after the trauma. A mass of jelly-like substance was removed from the pelvis of the kidney, consisting mostly of fibrin. It was evidently the relics of blood clots and had plugged the opening into the ureter and thus induced the hydronephrosis. Complete recovery followed the operation which was supplemented by copious flushing of the pelvis of the kidney with a solution of boric acid, and drainage. He cites a somewhat similar case that has been published by Parker, although in this latter instance a stone was found in the kidney. In his case there was no stone, but the clotted fibrin would probably have entailed the formation of a stone in time.

New Patents.

Patents of interest to physicians, Dec. 15 to 29, 1903:

747138. Disinfectant and making same. Joseph Choulet, Algiers, Algeria.
746791. Obstetrical forceps. Jesse A. Clifton, Orangeburg, S. C.
747157. Sphygmograph. Wm. H. Fahrney, Chicago.
746832. Sanitary syrup-receptacle for soda-water fountains. Fred H. Hecker, Chicago.
747068. Indicator for dilators. Carl G. Heynemann, Leipsic, Germany.
746841. Stopper for bottles for aerated waters or other liquids under pressure. Francis Illes, Budapest, Austria-Hungary.
747184. Formaldehyde fumigator. Robert W. Johnson, New Brunswick, N. J.
746872. Hernial truss. F. P. McElfresh, Jackson Township, Shelby County, Iowa.
746731. Formaldehyde fumigator. Seth M. Morris, Galveston, Texas.
746749. Nasal medicator. George E. Seidel, Richmond, Ind.
747247. Truss pad. Isaac B. Seeley, New York.
747359. Secateur. A. W. A. Barnard and W. G. Reid, Dunedin, New Zealand.
747364. Vaporizer for anesthetics. George L. Bennett, Chicago.
747713. Apparatus for dispensing hot beverages. Heber A. Hopkins, West Roxbury, Mass.
747444. Combined syringe and applicator. E. N. La Vetne, Kansas City, Mo.
747742. Anesthetic inhaler. Edwin Marshall, Warrensburg, Mo.
747634. Water bag. Harriette E. Peterson, Washington, D. C.
747525. Surgical apparatus. Belle R. Willis, St. Joseph, Mo.
748336. Abdominal bandage. Carrie Babion, Chesaning, Mich.
748068. Crutch. J. H. Hammond and W. Bridgewater, Leicester, England.
747972. Surgical operating frame. Rudolph C. Hoyer, Vicksburg, Miss.
748289. Collapsible stretcher. Emanuel Kottusch, Zurich, Switzerland.
748413. Disinfecting apparatus. F. C. Nye, Syracuse, N. Y.
748424. Hypodermic syringe. Arno Schmidt, Weimar, Germany.
748426. Combined body brace and truss. S. R. Shepard, Louisville, Ky.
748227. Atomizer. Ferdinand A. Smith, Los Angeles, Cal.